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# CATALOGUE

OF THE

# BIRDS

IN THE

# BRITISH MUSEUM.

VOLUME XIX.

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# CATALOGUE

OF THE

# PICARIÆ

IN THE

COLLECTION

OF THE

# BRITISH MUSEUM.

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## SCANSORES AND COCCYGES,

CONTAINING THE FAMILIES

RHAMPHASTIDÆ, GALBULIDÆ, AND BUCCONIDÆ,

BY

P. L. SCLATER,

AND THE FAMILIES

INDICATORIDÆ, CAPITONIDÆ, CUCULIDÆ,
AND MUSOPHAGIDÆ,

BY

G. E. SHELLEY.

LONDON:
PRINTED BY ORDER OF THE TRUSTEES.

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1891.

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RED LION COURT, FLEET STREET.

# PREFACE.

The present volume contains an account of the remaining families of the suborder *Scansores*, and of those of the suborder *Coccyges*. The arrangement of three of these families, which are entirely composed of Neotropical forms, was undertaken by Mr. P. L. Sclater, that of the remainder by Captain G. E. Shelley.

The numbers of species of the several families, and of the specimens at present in the Collection of the British Museum, are as follows :—

| | Species. | Types. | Specimens. |
|---|---|---|---|
| Indicatoridæ ..... | 12 | 3 | 86 |
| Capitonidæ ... ..... | 112 | 18 | 2183 |
| Rhamphastidæ..... | 59 | 5 | 673 |
| Galbulidæ ..... | 21 | 6 | 243 |
| Bucconidæ ..... | 43 | 10 | 419 |
| Cuculidæ ..... | 176 | 28 | 5423 |
| Musophagidæ ..... | 25 | 3 | 204 |
| | 448 | 73 | 9231 |

Of the 448 species recorded, 32 are not represented in the Museum; but besides the 73 types of species admitted as valid, the Collection contains 50 other typical specimens the names of which are now relegated to the synonymic lists.

Of donations not already mentioned on former occasions, I have to refer to the two following, which were specially useful in supplementing the series of specimens catalogued in the present volume :—

the entire collection of Cuckoos formed by Mr. H. Seebohm, and consisting of 539 specimens; and a valuable series of South-African birds collected by T. and W. Ayres in Natal and the Transvaal for the late Mr. J. H. Gurney, and presented by his son.

ALBERT GÜNTHER,
*Keeper of the Department of Zoology.*

British Museum (N. H.),
March 28, 1891.

# SYSTEMATIC INDEX.


Order PICARIÆ
(*contin.*).
Suborder SCANSORES
(*contin.*).
Fam. INDICATORIDÆ.

Page

1. Indicator, *Vieill.* ..... 2
   1. xanthonotus, *Blyth* .. 3
   2. archipelagicus, *Temm.* 4
   3. indicator (*Gm.*) .. 5, 457
   4. major, *Steph.* .... 6, 457
   5. variegatus, *Less.* .... 7
      *a.* stictithorax, *Reichen.* 8
   6. maculatus, *Gray* .... 9
   7. minor, *Steph.* ..... 9
   8. conirostris (*Cass.*) .... 10
   9. exilis (*Cass.*) ..... 11
2. Prodotiscus, *Sundev.* .... 11
   1. regulus, *Sundev.* ..... 11
   2. insignis (*Cass.*) ..... 12

Fam. CAPITONIDÆ.

1. Pogonorhynchus, *Van der Hoeven* ..... 15
   1. dubius (*Gm.*) ..... 15
2. Erythrobucco, *Shelley* .... 16
   1. rolleti (*Defil.*) ..... 17
3. Melanobucco, *Shelley* .... 17
   1. bidentatus (*Shaw*) .... 18
   2. æquatorialis, *Shelley* .. 19
   3. melanopterus (*Peters*) . 19
   4. levaillanti (*Vieill.*) .... 20
   5. leucocephalus (*Defil.*) . 21
   6. albicauda (*Shelley*) .. 21
   7. senex (*Reichen.*) ..... 22
   8. leucogaster (*Bocage*) . 22
   9. abyssinicus (*Lath.*) .. 22
   10. torquatus (*Dumont*) 24, 457
   11. irroratus (*Cab.*) ..... 25
   12. vieilloti (*Leach*) ..... 26
   13. undatus (*Rüpp.*) .... 27

Page

4. Tricholæma, *J. & E. Verr.* 28
   1. hirsutum (*Swains.*) .. 28
   2. stigmatothorax, *Cab.*.. 29
   3. melanocephalum (*Cr.*) 30
   4. lachrymosum, *Cab.* .. 31
   5. affine (*Shelley*) ..... 31
   6. leucomelan (*Bodd.*) .. 31
   7. diadematum (*Heugl.*) . 33
   8. frontatum (*Cab.*) .... 34
   9. masaicum (*Reichen.*).. 34
5. Gymnobucco, *Bp.* ..... 34
   1. calvus (*Lafr.*) ..... 34
6. Heliobucco, *Shelley*..... 36
   1. bonapartii (*Hartl.*) .. 36
7. Smilorhis, *Sundev.* ..... 36
   1. leucotis (*Sundev.*) .... 37
   2. kilimensis, *Shelley*.... 37
8. Barbatula, *Less.* ..... 38
   1. duchaillui, *Cass.*..... 38
   2. pusillla (*Dumont*) .... 39
   3. minuta, *Bp.* ..... 40
   4. affinis, *Reichen.* ..... 41
   5. uropygialis, *Heugl.* .. 41
   6. chrysocoma (*Temm.*) . 42
   7. extoni, *Layard* .. 43, 457
   8. erythronota (*Cuv.*) .. 43
   9. bilineata (*Sundev.*) 44, 457
   10. chrysopyga, *Shelley* .. 45
   11. leucolæma, *J. & E. Verr*..... 45, 457
   12. subsulphurea (*Fraser*). 46
   13. scolopacea (*Temm.*) .. 47
   14. fischeri, *Reichen.* .... 46
9. Stactolæma, *Marshall* .. 48
   1. anchietæ (*Bocage*).... 48
   2. olivaceum (*Shelley*) .. 49
   3. simplex (*F. & R.*) .... 49
10. Calorhamphus, *Less.* .... 49
   1. hayi (*Gray*) ..... 50
   2. fuliginosus (*Temm.*) .. 51
11. Megalæma, *Gray* ..... 52
   1. virens (*Bodd.*) ..... 52
   2. marshallorum, *Swinh.* . 53

Page

12. Chotorhea, *Bp.* ..... 55
1. corvina (*Temm.*) .... 56
2. javensis (*Horsf.*) .... 56
3. chrysopogon (*Temm.*) . 57
*a.* chrysopsis (*Goffin*) .. 59
4. versicolor (*Raffl.*) .... 59
13. Cyanops, *Bp.* ..... 61
1. asiatica (*Lath.*) ..... 62
2. davisoni (*Hume*) .... 65
3. flavifrons (*Cuv.*)..... 65
4. armillaris (*Temm.*) .. 66
5. henrici (*Temm.*)..... 67
6. incognita (*Hume*) .... 68
7. pulcherrima (*Sharpe*) . 69
8. franklini (*Blyth*) .... 69
9. ramsayi (*Wald.*) .... 70
10. oorti (*S. Müll.*)..... 71
11. mystacophanes(*Temm.*) 72
12. monticola, *Sharpe* .... 74
13. nuchalis (*Gould*) .... 74
14. faber (*Swinh.*) ..... 75
15. lagrandieri (*Verr.*).... 75
16. phæostriata (*Bp.*) 76, 458
17. zeylonica (*Gm.*) .... 76
18. caniceps (*Frankl.*).... 78
19. lineata (*Vieill.*) ..... 80
20. viridis (*Bodd.*) ..... 83
14. Mesobucco, *Shelley* ..... 85
1. duvauceli (*Less.*) .... 85
2. cyanotis (*Blyth*)..... 87
15. Xantholæma, *Bp.* ..... 88
1. hæmatocephala (*P. L. S. Müll.*) ..... 89
2. rubricapilla (*Gm.*).... 93
3. australis (*Horsf.*) .... 94
4. malabarica (*Blyth*) .. 95
5. rosea (*Dumont*)..... 96
6. intermedia, *Shelley*.... 97
16. Psilopogon, *S. Müll.* .... 98
1. pyrolophus, *S. Müll.*.. 98
17. Trachyphonus, *Ranzani* .. 99
1. cafer (*Vieill.*) .... 100, 458
2. suahelicus, *Reichen.* .. 102
3. versicolor, *Hartl.* .... 102
4. erythrocephalus, *Cab.*. 102
5. shelleyi, *Hartl.*..... 103
6. margaritatus (*Rüpp.*) . 103
7. boehmi, *Fischer & Reichen.* ..... 104
7*a*. emini, *Reichen* ..... 458
8. arnaudi (*Des Murs*) .. 105
9. purpuratus, *Verr.* .... 106
10. goffini (*Schleg.*) ..... 106
18. Capito, *Vieill.* ..... 107
1. aurovirens (*Cuv.*) .... 108
2. maculicoronatus, *Lawr.* 109

Page

3. squamatus, *Salvin* .. 110
4. quinticolor, *Elliot* .... 111
5. niger (*P. L. S. Müll.*). 111
6. punctatus, *Less.*..... 112
7. auratus (*Dumont*) .... 113
8. richardsoni, *Gray* .... 114
9. granadensis, *Shelley* .. 115
10. aurantiicollis (*Scl.*) .. 115
11. steerii, *Scl. & Salv.*.... 116
12. versicolor, *Müll.* .... 116
13. glaucogularis, *Tschudi.* 117
14. bourcieri (*Lafr.*) .... 118
15. salvini, *Shelley* ..... 119
19. Tetragonops, *Jard.*..... 120
1. rhamphastinus, *Jard.* . 120
2. frantzii, *Scl.* ..... 121

Fam. RHAMPHASTIDÆ.

1. Rhamphastos, *Linn.* .... 124
1. toco, *Müll* ..... 124
2. carinatus, *Sw.*.... 125, 458
3. brevicarinatus, *Gould* . 126
4. tocard, *Vieill.*..... 127
5. ambiguus, *Sw.* ..... 128
6. erythrorhynchus, *Gmel.* 128
7. inca, *Gould*..... 129
8. cuvieri, *Wagl.* ..... 130
9. culminatus, *Gould*.... 130
10. citreolæmus, *Gould* .. 131
11. osculans, *Gould* ..... 131
12. ariel, *Vig.* ..... 131
13. vitellinus, *Licht.*..... 132
14. dicolorus, *Linn.* ..... 133
2. Andigena, *Gould* ..... 133
1. hypoglaucus, *Gould* .. 134
2. cucullatus, *Gould* .... 134
3. laminirostris, *Gould* .. 135
4. nigrirostris, *Waterh.*.. 135
5. spilorhynchus, *Gould* . 136
6. bailloni, *Vieill.* ..... 136
3. Pteroglossus, *Ill.*..... 137
1. aracari, *Linn.*..... 138
2. wiedi, *Sturm*..... 139
3. formosus, *Cab.* ..... 139
4. pluricinctus, *Gould* .. 139
5. castanotis, *Gould* .... 140
6. torquatus, *Gm.* .. 141, 458
7. frantzii, *Cab.*..... 142
8. erythropygius, *Gould*.. 143
9. sanguineus, *Gould*.... 143
10. bitorquatus, *Vig.* .... 144
11. sturmi, *Natt.*..... 144
12. flavirostris, *Fraser*.... 144
13. azaræ, *Vieill.*..... 145

Page

14. humboldti, *Wagl.* .... 146
15. inscriptus, *Swains.*.... 146
16. viridis, *Linn.* ..... 147
17. didymus, *Scl.* ..... 147
18. beauharnaisi, *Wagl.* .. 148
4. Selenidera, *Gould* ..... 148
1. maculirostris, *Licht.* .. 149
2. gouldi, *Natt.* ..... 150
3. langsdorffi, *Wagl.*.... 150
4. reinwardtii, *Wagl.*.... 151
5. nattereri, *Gould*..... 151
6. piperivora, *Linn.* .... 152
7. spectabilis, *Cass.* .... 153
5. Aulacorhamphus, *Gray* .. 153
1. sulcatus, *Sw.* ..... 154
2. erythrognathus, *Gould.* 154
3. calorhynchus, *Gould* .. 155
4. derbianus, *Gould* .... 155
5. whitelyanus, *S. & G.* 156
6. prasinus, *Licht.* .. 156, 458
7. wagleri, *Sturm* ..... 157
8. albivittatus, *Boiss.*.... 157
9. hæmatopygius, *Gould*. 158
10. cæruleicinctus, *d'Orb.* . 159
11. cæruleigularis, *Gould* . 159
12. cyanolæmus, *Gould* .. 160
13. atrogularis, *Sturm*.... 160
14. dimidiatus, *Ridgw.* .. 160

Fam. GALBULIDÆ.

Subfam. GALBULINÆ.

1. Urogalba, *Bp.* ..... 162
1. paradisea, *Linn.* ..... 162
2. amazonum, *Scl.* ..... 163
2. Galbula, *Briss.* ..... 163
1. viridis, *Lath.* ..... 164
2. rufo-viridis, *Cab.* .... 165
3. ruficauda, *Cuv.* ..... 166
4. melanogenia, *Scl.* .... 166
5. tombacea, *Spix* ..... 167
6. pastazæ, *Tacz. et Berl.* . 168
7. albirostris, *Lath.* .... 168
8. cyaneicollis, *Cass.*.... 169
9. leucogaster, *Vieill.*.... 170
10. chalcothorax, *Scl.*.... 171
3. Brachygalba, *Bp.* ..... 171
1. lugubris, *Sw.* ..... 171
2. fulviventris, *Scl.*..... 172
3. goeringi, *Scl. & Salv.*.. 172
4. salmoni, *Scl. & Salv.*.. 173
5. albigularis, *Spix*..... 173
6. melanosterna, *Scl.*.... 174

Page

4. Jacamaralcyon, *Less.*.... 174
1. tridactyla, *Vieill.* .... 174
5. Galbalcyrhynchus, *Des Murs* ..... 175
1. leucotis, *Des Murs* .. 175

Subfam. JACAMEROPINÆ.

6. Jacamerops, *Less.* ..... 176
1. grandis, *Gm.* ..... 176

Fam. BUCCONIDÆ.

1. Bucco, *Briss.* ..... 179
1. collaris, *Lath.*..... 180
2. macrorhynchus, *Gm.*.. 181
3. dysoni, *Scl.*..... 182
4. hyperrhynchus, *Scl.* .. 183
5. swainsoni, *Gray*..... 183
6. pectoralis, *Gr. & Mitch.* 184
7. ordi, *Cass.* ..... 184
8. tectus, *Bodd.* ..... 185
9. picatus, *Scl.* ..... 186
10. subtectus, *Scl.* ..... 186
11. macrodactylus, *Spix* .. 186
12. ruficollis, *Wagl.*..... 187
13. bicinctus, *Gould*..... 188
14. tamatia, *Gm.* ..... 188
15. pulmentum, *Bp.* .... 189
16. maculatus, *Gm.* .... 190
17. striatipectus, *Scl.* .... 190
18. chacuru, *Vieill.*..... 191
19. striolatus, *Pelz.* ..... 192
20. radiatus, *Scl.* ..... 192
2. Malacoptila, *Gray* ..... 193
1. fusca, *Gm.* ..... 193
2. rufa, *Spix* ..... 194
3. torquata, *Hahn u. Küst.* ..... 195
4. panamensis, *Lafr.*.... 196
5. inornata, *Du Bus.*.... 197
6. fulvigularis, *Scl.*..... 198
7. substriata, *Scl.* ..... 198
3. Micromonacha, *Scl.* .... 199
1. lanceolata, *Deville*.... 199
4. Nonnula, *Scl.* ..... 199
1. rubecula, *Spix* ..... 200
2. cineracea, *Scl.* ..... 200
3. ruficapilla, *Tsch.*..... 200
4. frontalis, *Scl.* ..... 201
5. brunnea, *Scl.* ..... 201
5. Hapaloptila, *Scl.*..... 202
1. castanea, *Verr.* ..... 202

Page
6. Monacha, *Vieill.* ..... 202
1. nigra, *Müll.* ..... 203
2. flavirostris, *Strickl.* .. 204
3. morpheus, *Hahn u. Küst.* 204
4. peruana, *Scl.* ..... 205
5. grandior, *Scl. & Salv.* . 205
6. pallescens, *Cass.* ..... 206
7. nigrifrons, *Spix* ..... 206
7. Chelidoptera, *Gould* .... 207
1. tenebrosa, *Pallas* .... 207
2. brasiliensis, *Scl.* ..... 208

Suborder COCCYGES.

Fam. CUCULIDÆ.

Subfam. CUCULINÆ.

1. Coccystes, *Gloger* ..... 211
1. glandarius (*L.*) .. 212, 458
2. coromandus (*L.*) .... 214
3. jacobinus (*Bodd.*) 217, 458
*a.* hypopinarius, *Cab. & Heine* ..... 220, 458
*β.* caroli, *Norman* .... 221
4. cafer (*Licht.*) .... 221, 459
5. serratus (*Sparrm.*) 223, 459
6. albonotatus, *Shelley* .. 224
2. Pachycoccyx, *Cab.* ..... 224
1. audeberti, *Schl.* ..... 224
2. validus (*Reichen.*) .... 225
3. Calliechthrus, *Cab. & Heine* ..... 225
1. leucolophus (*S. Müll.*). 225
4. Surniculus, *Less.* ..... 226
1. lugubris (*Horsf.*) .... 227
2. muschenbroeki, *Meyer.* 230
3. velutinus, *Sharpe* .... 230
5. Hierococcyx, *S. Müll.* .... 231
1. sparveroides (*Vig.*) .. 232
2. bocki, *W. Ramsay* .... 234
3. varius (*Vahl*) ..... 234
4. fugax (*Horsf.*) ..... 236
5. nanus, *Hume* ..... 238
6. crassirostris, *Wald.* .... 239
6. Cuculus, *Linn.* ..... 240
1. micropterus, *Gould* .. 241
2. gularis, *Steph.* ..... 244
3. canorus, *L.* ..... 245, 459
4. intermedius, *Vahl* 252, 459
5. poliocephalus, *Lath.* .. 255
6. solitarius, *Steph.* .... 258
7. gabonensis, *Lafr.* .... 259
8. clamosus, *Lath.* ..... 260
9. pallidus, *Lath.* ..... 261
Page
10. sonnerati, *Lath.* ..... 262
7. Cercococcyx, *Cab.* ..... 265
1. mechowi, *Cab.* ..... 265
8. Cacomantis, *S. Müll.* .... 265
1. flabelliformis (*Lath.*).. 266
2. merulinus (*Scop.*) .... 268
3. variolosus (*Horsf.*) .. 272
4. insperatus (*Gould*).... 273
5. virescens (*Brügg.*).... 274
6. castaneiventris, *Gould*. 274
7. bronzinus (*Gray*) .... 275
8. simus (*Peale*) ..... 276
9. infuscatus (*Hartl.*) .. 276
10. passerinus (*Vahl*) .... 277
9. Mesocalius, *Cab.* ..... 279
1. palliolatus (*Lath.*).... 279
10. Chrysococcyx, *Boie* .... 280
1. smaragdineus (*Swains.*). 280
2. flavigularis, *Shelley* .. 282
3. klaasi (*Steph.*) ..... 283
4. cupreus (*Bodd.*).. 285, 459
11. Chalcococcyx, *Cab.* ..... 288
1. xanthorhynchus (*Horsf.*) 289
2. maculatus (*Gm.*) .... 291
3. meyeri (*Salvad.*) .... 293
4. basalis (*Horsf.*) ..... 294
5. lucidus (*Gm.*) ..... 295
6. poliurus (*Salvad.*) .... 296
7. plagosus (*Lath.*) .... 297
8. malayanus (*Raffl.*).... 298
9. pœcilurus (*Gray*) .... 299
10. ruficollis (*Salvad.*) .... 300
11. pœciluroides (*Salvad.*) . 301
12. misorensis (*Salvad.*) .. 301
13. crassirostris (*Salvad.*) . 301
12. Coccyzus, *Vieill.* ..... 302
1. lansbergi, *Bp.* ..... 303
2. ferrugineus, *Gould* .... 303
3. minor (*Gm.*) ..... 304
*a.* maynardi, *Ridgw.* .. 306
*β.* dominicæ, *Shelley* .. 306
4. melanocoryphus, *V.* .. 307
5. americanus (*L.*) .. 308, 459
*a.* occidentalis, *Ridgw.* 311
6. erythrophthalmus, (*Wils.*)..... 311, 460
7. cinereus, *Vieill.* ..... 312
8. pumilus, *Strickl.* ..... 313
13. Urodynamis, *Salvad.* .... 313
1. taitiensis (*Sparrm.*) .. 314
14. Eudynamis, *Vig. & Horsf.* 315
1. honorata (*L.*).... 316, 460
2. mindanensis (*L.*) .... 321
3. orientalis (*L.*)..... 322
4. cyanocephala (*Lath.*).. 324
5. rufiventer (*Less.*) .... 325

Page
6. melanorhyncha, *S. Müll.* ..... 327
15. Microdynamis, *Salvad.* .. 328
1. parva (*Salvad.*) ..... 328
16. Rhamphomantis, *Salvad.* . 329
1. megarhynchus (*Gray*) . 329
17. Scythrops, *Lath.* ..... 329
1. novæ-hollandiæ, *Lath.* 330

Subfam. CENTROPODINÆ.

18. Centropus, *Ill.* ..... 331
1. ateralbus, *Less.* ..... 334
2. milo, *Gould.* ..... 335
3. goliath, *Bp.* ..... 335
4. menebiki, *Less.* ..... 336
5. aruensis (*Salvad.*) .... 337
6. violaceus (*Q. & G.*).... 337
7. chalybeus (*Salvad.*) .. 337
8. bernsteini, *Schl.* ..... 338
9. spilopterus, *Gray* .... 338
10. mindorensis (*Steere*) .. 339
11. nigricans (*Salvad.*).... 339
12. phasianus (*Lath.*) .... 340
13. chlororhynchus, *Blyth.* 342
14. rectunguis, *Strickl.* .. 343
15. sinensis (*Steph.*) ..... 343
16. purpureus, *Shelley* .... 348
17. viridis (*Scop.*) ..... 349
18. toulou (*P. L. S. Müll.*) 350
19. bengalensis (*Gm.*) .... 352
20. javanicus (*Dumont*) .. 354
21. nigrorufus (*Cuv.*) .... 357
22. epomidis, *Bp.*..... 357
23. leucogaster (*Leach*) .. 358
24. anselli, *Sharpe* ..... 359
25. fischeri, *Reichen.* .... 359
26. monachus, *Rüpp.* .... 359
27. senegalensis (*L.*) .... 360
28. natalensis, *Shelley* 362, 460
29. superciliosus, *H. & E.* 363
30. melanops, *Less.* ..... 365
31. celebensis, *Q. & G.*.... 365
32. andamanensis, *Beavan* . 366
33. unirufus (*Cab. & Heine*) 367

Subfam. PHŒNICOPHAINÆ.

19. Saurothera, *Vieill.* ..... 369
1. dominicensis, *Lafr.* .. 369
2. vetula (*L.*) ..... 370
3. merlini, *D'Orb.* ..... 370
4. bahamensis, *Bryant* .. 371
5. vieilloti, *Bp.* ..... 371

Page
20. Hyetornis, *Scl.*..... 372
1. pluvialis (*Gm.*) ..... 372
21. Piaya, *Less.*..... 373
1. cayana (*L.*) .... 373, 460
2. melanogastra (*V.*) .... 377
3. minuta (*V.*)..... 378
22. Zanclostomus, *Swains.* .. 380
1. javanicus (*Horsf.*) .... 380
23. Taccocua, *Less.* ..... 381
1. sirkee (*Gray*) ..... 381
24. Rhopodytes, *Cab. & Hein.* 384
1. viridirostris (*Jerd.*) .. 385
2. tristis (*Less.*) ..... 386
3. elongatus (*S. Müll.*) .. 389
4. borneensis (*Bp.*)..... 389
5. diardi (*Less.*) ..... 390
6. sumatranus (*Raffl.*) .. 391
25. Rhinortha, *Vig.* ..... 392
1. chlorophæa, (*Raffl.*) .. 393
26. Phœnicophaës, *Vieill.*.... 395
1. pyrrhocephalus (*Forst.*) 395
27. Rhamphococcyx, *Cab. & Heine* ..... 396
1. calorhynchus (*Temm.*) 396
28. Rhinococcyx, *Sharpe* .... 397
1. curvirostris (*Shaw*) .. 397
29. Urococcyx, *Shelley* ..... 398
1. erythrognathus (*Hartl.*) ..... 398
2. æneicaudus (*Verr.*) .. 400
30. Dryococcyx, *Sharpe* .... 400
1. harringtoni, *Sharpe* .. 400
31. Ceuthmochares, *Cab. & Heine* ..... 401
1. flavirostris (*Swains.*) .. 401
2. aereus (*Vieill.*) ..... 402
3. australis, *Sharpe*..... 403
32. Dasylophus, *Swains.* .... 403
1. superciliosus (*Cuv.*) .. 404
33. Lepidogrammus, *Reichenb.* 404
1. cumingi (*Fraser*) .... 404
34. Coua, *Cuv.* ..... 405
1. cærulea (*L.*) ..... 406
2. reynaudii, *Puch.*..... 407
3. serriana, *Puch.* ..... 408
4. cristata (*L.*) ..... 409
5. pyropyga, *Grand.* .... 410
6. verreauxi, *Grand.* .... 410
7. ruficeps, *Gray*..... 411
8. olivaceiceps (*Sharpe*) . 411
9. cursor, *Grand.* ..... 412
10. coquerelli, *Grand.*.... 412
11. gigas (*Bodd.*) ..... 412
12. delalandii (*Temm.*) .. 413

Subfam. NEOMORPHINÆ.


Page

35. Carpococcyx, *Gray*..... 414
1. radiatus (*Temm.*) .... 415
36. Neomorphus, *Gloger* .... 415
1. geoffroyi (*Temm.*) .... 416
2. salvini, *Scl.*..... 417
3. pucherani (*Deville*) .. 417
4. rufipennis (*Gray*) .... 418
5. radiolosus, *Salv.*..... 418
37. Geococcyx, *Wagl.* ..... 419
1. mexicanus (*Gm.*) .... 419
2. affinis, *Hartl.*..... 421
38. Morococcyx, *Scl.*..... 422
1. erythropygus (*Less.*) .. 422

Subfam. DIPLOPTERINÆ.

39. Diplopterus, *Boie*..... 423
1. nævius (*L.*) ..... 423
40. Dromococcyx, *Wied* .... 425
1. phasianellus (*Spix*) .. 425
2. pavoninus (*Pelz.*) .... 426

Subfam. CROTOPHAGINÆ.

41. Crotophaga, *Linn.* ..... 427
1. major, *Gm.*..... 428
2. ani, *L.*..... 429
3. sulcirostris, *Sw.*..... 432
42. Guira, *Less.*..... 433
1. guira (*Gm.*) ..... 434

Fam. MUSOPHAGIDÆ.

Page

1. Turacus, *Cuv.* ..... 435
1. leucotis (*Rüpp.*)..... 436
2. persa (*L.*) ..... 437
3. buffoni (*V.*) ..... 438
4. schalowi, *Reichen.*..... 439
5. livingstoni, *Gray* .... 439
6. reichenowi (*Fischer*) .. 440
7. corythaix (*Wagl.*) .... 440
8. schuetti (*Cab.*) ..... 441
9. microrhynchus (*Fraser*) ..... 441
10. meriani (*Rüpp.*)..... 442
11. fischeri (*Reichen.*) .... 443
12. erythrolophus (*V.*) .. 444
13. leucolophus, *Heugl.* .. 444
14. hartlaubi (*Fischer & Reichen.*)..... 445
2. Gallirex, *Less.* ..... 446
1. porphyreolophus (*Vig.*) 446
2. chlorochlamys, *Shelley* 447
3. Musophaga, *Isert* ..... 447
1. violacea, *Isert*..... 448
2. rossæ, *Gould* ..... 448
4. Corythæola, *Heine* ..... 449
1. cristata (*V.*) ..... 449
5. Schizorhis, *Wagl.*..... 450
1. africana (*Lath.*) ..... 450
2. zonura, *Rüpp.*..... 451
3. leucogaster, *Rüpp.*.... 453
4. concolor (*Smith*) .... 455
6. Gymnoschizorhis, *Schalow* 455
1. personata (*Rüpp.*) .... 455
2. leopoldi, *Shelley*..... 426

CATALOGUE

OF

# BIRDS.

## Order PICARIÆ.

(See vol. xvi. p. 1.)

## Suborder SCANSORES.

(See vol. xviii. p. 1.)

## Family INDICATORIDÆ.

(By G. E. SHELLEY.)

Bill stout and Finch-like in the typical genus *Indicator*, the maxilla swollen laterally, with the culminal ridge well marked, the culmen and the genys meeting at the tip with a precisely similar curve; nostrils oval, exposed, with a narrow superior membrane. In *Prodotiscus* the bill is much more slender and pointed.

Palate ægithognathous.

Vomer single, bifurcate. Manubrial process of the sternum pointed.

Femoro-caudal and accessory semitendinosus muscles present; ambiens and accessory femoro-caudal absent.

Tail-feathers twelve (in *Prodotiscus* ten).

Pterylosis: ventral feather-tract forked on throat, but not on each side of breast.

Oil-gland tufted.

Cæca none.

Ranging over the whole of the Æthiopian Region, re-occurring in the Himalayas, the mountains of the Malayan Peninsula and of Borneo.

(Cf. *Garrod*, *P. Z. S.* 1878, pp. 930–935; *Sharpe in Rowley's Orn. Misc.* vol. i. pp. 192–209.)

*Key to the Genera.*

*a*. Tail composed of twelve feathers; bill deeper than broad, and stout ..... 1. INDICATOR, p. 2.
*b*. Tail composed of ten feathers; bill broader than deep, and slender..... 2. PRODOTISCUS, p. 11.

## 1. INDICATOR.

| | Type. |
|---|---|
| Indicator, *Vieill. Analyse*, p. 28 (1816) ..... | I. indicator. |
| Prodotes, *Nitzsch, Pterylographie*, p. 131 (1840) .... | I. indicator. |
| Melignothes, *Cass. Proc. Ac. N.Sc. Philad.* 1856, p. 156 | I. conirostris. |
| Melignostes, *Heine, J. f. O.* 1860, p. 102 ..... | I. conirostris. |
| Pseudofringilla, *Hume, Str. F.* i. p. 314 (1873) .... | I. acanthonotus. |
| Pseudospiza (*nom. emend.*), *Sharpe in Rowley's Orn. Misc.* i. p. 207 (1876) ..... | I. acanthonotus. |

*Range*. The whole of the Ethiopian Region, re-occurring in the Himalayas, the Malayan Peninsula, and Borneo.

*Key to the Species.*

*a*. Tail darker, none of the feathers having the basal half white.
  *a'*. With a large patch of bright orange-yellow on the lower back and upper tail-coverts .. *xanthonotus*, p. 3.
  *b'*. Lower back and upper tail-coverts uniform with the mantle ..... *archipelagicus*, p. 4.
*b*. Tail paler, the basal half of the three outer pairs of feathers white.
  *c'*. With some white on the lower back and upper tail-coverts.
    *a''*. Lower back and upper tail-coverts streaked with white; with no trace of yellow on the forehead or throat ..... *indicator*, p. 5.
    *b''*. Lower back and upper tail-coverts with a large blotch of white; with some yellow on the forehead and throat ..... *major*, p. 6.
  *d'*. With no white on the lower back and upper tail-coverts, which are similar in colouring to the mantle.
    *c''*. Throat spotted with white.
      *a'''*. Breast buff, without spots.
        $a^4$. Abdomen creamy white; under wing-coverts white ..... *variegatus*, p. 7.
        $b^4$. Abdomen and under wing-coverts shaded with bright yellow ..... *stictithorax*, p. 8.
      *b'''*. Underparts darker, dusky ash-colour; abdomen spotted like the throat .... *maculatus*, p. 9.
    *d''*. Throat more uniform, not spotted with white.
      *c'''*. Larger, wing about 3·5 inches.
        $c^4$. Above duller; crown not washed with yellow; thigh-coverts with obscure dusky stripes ..... *minor*, p. 9.

*d*². Above brighter; crown washed with golden yellow like the back; thigh-coverts striped with black ..... *conirostris*, p. 10.
*d*³. Smaller, wing about 2·5 inches ..... *exilis*, p. 11.

## 1. Indicator xanthonotus.

Indicator xanthonotus, *Blyth, J. A. S. Beng.* xi. p. 928 (1842), xii. p. 942, fig. C (1843), xiv. p. 198 (1845); *Gray, Gen. B.* ii. p. 451 (1847); *Jerd. Ill. Ind. B.* pl. 50 (1847); *Bp. Consp. Av.* i. p. 100 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 5, note (1862); *Gray, Hand-l. B.* ii. p. 205, no. 8861 (1870); *Jerd. Ibis*, 1872, p. 10; *Stoliczka, Str. F.* i. p. 529 (1873); *Sharpe in Rowley's Orn. Misc.* i. p. 205 (1876); *id. P. Z. S.* 1878, p. 795; *Gould, B. Asia*, vi. pl. 48 (1883).
Indicator radcliffii, *Hume, Ibis*, 1872, p. 10.
Pseudofringilla xanthonotus, *Hume, Str. F.* i. p. 314 (1873).
Pseudospiza xanthonota, *Sharpe in Rowley's Orn. Misc.* i. p. 207 (1876).

*Adult male.* General plumage above black; forehead and fore part of crown bright golden yellow; remainder of the crown, sides of the head, and sides and back of the neck washed with olive; feathers of the mantle and the wing-coverts partially edged with pale yellow, the quills with similar, but more indistinct margins; the inner webs of the innermost secondaries with broad white edges; middle of the back sulphur-yellow, shading into orange-yellow down the centre of the lower back, a few of the centre tail-coverts with partial yellow edges; tail black, with the small outer feather dusky white; underparts ashy grey, with a bright yellow patch extending over the lores and sides of the upper throat; remainder of the throat faintly washed with yellow; feathers of the breast mesially blackish, giving a mottled appearance to these parts, the black almost covering the feathers of the flanks, abdomen, and under tail-coverts; under wing-coverts white, slightly mottled with black, and washed with buff at the edge of the wing; under surface of the quills brown, with a partial pale margin on the inner webs. Total length 6·6 inches, culmen 0·35, wing 3·7, tail 2·7, tarsus 0·55.

*Adult female.* Similar in plumage to the male, but slightly duller. Total length 5·5 inches, culmen 0·35, wing 3·2 tail 2·2, tarsus 0·5.

*Hab.* Himalaya Mountains.

| | | |
|---|---|---|
| *a–d.* ♂; *e, f.* ♀ ad. sk. | Native Sikhim, Oct., Dec., Feb., March, April (*L. Mandelli*). | Hume Coll. |
| *g.* Ad. sk. | Sikhim. | Hume Coll. |
| *h.* Ad. sk. | Kala Bagh, June. | Hume Coll. |

## 2. Indicator archipelagicus.

Indicator archipelagicus, *Temm. Pl. Col.* 543. fig. 2 (1832); *id. Tabl. Méth.* p. 51 (1838); *S. Müll. Verhandel. Land- en Volkenk.* p. 234 (1839–44); *Gray, Gen. B.* ii. p. 451 (1847); *Low, Sarawak*, p. 411 (1848); *Bp. Consp.* i. p. 100 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 4, note (1862); *Schleg. Mus. P.-B.* i. Cuculi, p. 2 (1864); *Gray, Hand-l. B.* ii. p. 205, no. 8860 (1870); *Elwes, P. Z. S.* 1873, p. 680; *Salvad. Ann. Mus. Civ. Gen.* v. p. 61 (1874); *Sharpe in Rowley's Orn. Misc.* i. p. 197 (1876); *id. Ibis*, 1877, p. 8; *id. P. Z. S.* 1878, pp. 794, 795; *id. Ibis*, 1879, p. 244, 1890, p. 9; *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 169.
Indicator malayanus, *Sharpe, P. Z. S.* 1878, pp. 794, 795.

*Adult male.* General colour above ashy brown washed with olive, with yellowish edges to all the feathers of the back and wings, these edges inclining to yellowish buff on some of the feathers of the rump and upper tail-coverts, to which they give a streaked appearance; a broad yellow band on the shoulder formed by the inner lesser wing-coverts sulphur-yellow; tail-feathers dark brown, partially edged with olive, the three outer pairs of feathers with a large white patch reaching entirely across the inner web, the three centre pairs with only partial pale inner margins; sides of the face and ear-coverts dingy ash-colour, with a very faint olive tinge; under surface of the body white, inclining to buff on the centre of the breast, abdomen, and under tail-coverts, and rather strongly shaded with olive-shaded ash-colour on the lower throat and chest; feathers of the flanks and thigh-coverts with broad brown shaft-stripes: under wing-coverts creamy white; quills brown, with whitish inner margins. Total length 6·3 inches, culmen 0·55, wing 3·8, tail 2·8, tarsus 0·55.

*Adult female.* Similar in plumage to the male: "upper mandible and tip of lower mandible horny brown; iris Indian red; legs leaden green" (*A. Everett*). Total length 5·7 inches, culmen 0·5, wing 3·6, tail 2·6, tarsus 0·5.

*Immature* (type of *I. malayanus*). Similar to the adult, but differs in having the upper parts slightly more washed with yellow, with a mere trace of the yellow shoulder-spot: tail identical in colour: throat faintly striped; lower throat and chest less ashy and slightly washed with yellow. Total length 5·7 inches, culmen 0·55, wing 3·9, tail 2·45, tarsus 0·55.

*Hab.* Malayan Peninsula and Borneo.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Klang, Salangore, March (*W. Davison*). | Hume Coll. |
| *b.* Ad. sk. | Malacca. | Purchased. (Type of *I. malayanus*.) |
| *c.* ♀ ad. sk. | Bintulu, Sarawak. | A. H. Everett, Esq. [C.]. |
| *d, e, f.* Ad. sk. | Trusan, Sarawak, Jan., Feb. | A. H. Everett, Esq. [C.]. |

### 3. Indicator indicator.

Cuculus indicator, *Gm. Syst. Nat.* i. p. 418 (1788); *Walden, Ibis*, 1869, p. 337.

Indicator sparrmanni, *Steph. Gen. Zool.* ix. p. 138 (1815); *Gray, Gen. B.* ii. p. 451 (1847); *Bp. Consp. Av.* i. p. 100 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 6 (1862); *Schl. Mus. Pays-Bas*, i. Cuculi, p. 2 (1864); *Blanf. Geol. & Zool. Abyss.* p. 307; *Finsch, Trans. Z. S.* vii. p. 286 (1870); *Gray, Hand-l. B.* ii. p. 204, no. 8853; *Heugl. Orn. N.O.-Afr.* ii. pp. 767, clx (1871); *Sharpe, Cat. Afr. B.* p. 14 (1871); *Antin. & Salvad. Ann. Mus. Civ. Gen.* iv. p. 46 (1873); *Buckley, Ibis*, 1874, p. 368; *Sharpe in Rowley's Orn. Misc.* i. p. 201 (1876); *Bocage, Orn. Angola*, p. 135 (1877); *Sharpe, P. Z. S.* 1878, p. 795; *Ayres, Ibis*, 1879, p. 296; *Fisch. & Reichen. J. f. O.* 1879, p. 341; *Sharpe, ed. Layard's B. S. Afr.* pp. 166, 810 (1875–84); *id. in Oates' Matabele-Land*, p. 305 (1881); *Hartl. Abhandl. nat. Ver. Brem.* viii. p. 209 (1882); *Böhm, J. f. O.* 1883, p. 165; *Schalow, t. c.* p. 346; *Salvad. Ann. Mus. Civ. Gen.* (2) i. p. 90 (1884); *Fischer, Zeitschr. ges. Orn.* 1884, p. 365; *Böhm, J. f. O.* 1885, p. 57; *Fischer, t. c.* p. 124; *Reichen. J. f. O.* 1887, pp. 59, 309.

Indicator albirostris, *Temm. Pl. Col.* 367 (1825); *Less. Man. Orn.* p. 125 (1828); *id. Traité*, p. 155 (1831); *Temm. Tabl. Méth.* p. 51 (1838); *Gray, Gen. B.* ii. p. 451 (1847); *Des Murs in Lefebvre, Voy. Abyss.* p. 139 (1849); *Bp. Consp. Av.* i. p. 100 (1850); *Hartl. J. f. O.* 1854, p. 201; *Heugl. Syst. Uebers.* p. 47 (1856); *Hartl. Orn. W.-Afr.* p. 184 (1857); *Heugl. J. f. O.* 1863, p. 272, 1864, p. 265; *Layard, B. S. Afr.* p. 242 (1867); *Bocage, Jorn. Lisb.* 1873, p. 197.

Indicator levaillanti, *Temm. Pl. Col.* 367, text to I. minor (1825); *Leadbeater, Trans. Linn. Soc.* xvi. p. 90 (1833); *Gray, Gen. B.* ii. p. 451 (1847).

Indicator leucotis, *Swains. B. W. Afr.* ii. p. 193 (1837).

Indicator flaviscapulatus, *Rüpp. Neue Wirb., Vög.* p. 60 (1835–40).

Prodotes albirostris, *Nitzsch, Pterylographie*, p. 131 (1840).

Indicator archipeligicus (*nec Temm.*), *Rüpp. Syst. Uebers.* p. 96 (1845).

Indicator albicollis, *Leadbeater, fide Bp. Consp. Av.* p. 100 (1850).

Indicator pallidirostris, *Heugl. J. f. O.* 1864, p. 265; *Gray, Hand-l. B.* ii. p. 205, no. 8858 (1870).

Indicator sp., *Sandeman, Ibis*, 1880, p. 286.

*Adult male.* Above ashy brown, with a yellow band on the shoulder formed by some of the innermost of the least wing-coverts; remainder of the wing-coverts with broad whitish edges, the quills with narrow pale edges; some of the feathers of the rump and upper tail-coverts with broad white edges, but none of the feathers ever entirely white; centre pair of tail-feathers and the ends of the remainder dark brown, with the greater portion white, the white increasing in extent towards the outer ones; chin and upper throat black; cheeks brownish black; ear-coverts brownish white; lower throat and chest brownish white, passing entirely into white on the centre of the body, abdomen, and under tail-coverts; flanks and thigh-coverts with narrow dark brown shaft-stripes; under wing-coverts and inner edges of the quills white: "bill whitish; iris

dark hazel; legs lead-colour" (*T. E. Buckley*). Total length 7·9 inches, culmen 0·6, wing 4·5, tail 3·3, tarsus 0·7.

*Adult female.* Differs in plumage from the male in having no black on the upper throat, the chin, entire throat, and cheeks being whitish like the breast. Total length 7·1 inches, culmen 0·55, wing 4·2, tail 3·2, tarsus 0·65.

*Hab.* The greater part of Tropical Africa, except the forest-region of the West Coast.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Senegambia. | Governor Rendall [P.]. |
| *c, d.* ♂ ad.; *e, f.* ♀ ad. sk. | Senegambia. | Seebohm Coll. |
| *g.* ♂ ad. sk. | Casamance. | Sharpe Coll. |
| *h.* ♂ ad.; *i, k.* ♀ ad. sk. | Bogos Land (*Esler*). | Sharpe Coll. |
| *l.* ♀ ad. sk. | Maragaz, July (*W. Jesse*). | Tweeddale Coll. |
| *m.* ♂ ad. sk. | Limpopo R., Transvaal, Nov. (*T. E. Buckley*). | Shelley Coll. |
| *n, o.* ♂ ♀ ad. sk. | Holfontein, Transvaal (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *p.* ♀ ad. sk. | Newcastle, Natal, Oct. (*E. A. Butler*). | Shelley Coll. |
| *q.* ♂ ad. sk. | Kingwilliamstown, May. | Major Trevelyan [P.]. |
| *r.* ♀ ad. sk. | Eland's Post, May (*T. C. Atmore*). | Sharpe Coll. |
| *s.* ♂ ad. sk. | South Africa. | Sir A. Smith. |
| *t.* ♂ ad. sk. | South Africa. | Shelley Coll. |

## 4. Indicator major.

Le Grand Indicateur, mâle, *Levaill. Ois. Afr.* v. p. 135, pl. 241. fig. 1 (1806); *Sundev. Krit. Framst. om Levaill.* p. 50 (1857).

Indicator major, *Steph. Gen. Zool.* ix. p. 139, pl. 27. fig. 1 (1815); *Vieill. Nouv. Dict.* xvi. p. 153 (1817); *Vieill. Enc. Méth.* p. 1350 (1823); *Less. Man. Orn.* p. 125 (1828); *id. Traité*, p. 155 (1831); *Temm. Tabl. Méth.* p. 51 (1838); *Gray, Gen. B.* ii. p. 451 (1847); *Bp. Consp. Av.* i. p. 100 (1850); *Hartl. Orn. W.-Afr.* pp. 183, 274 (1857); *id. J. f. O.* 1861, p. 264; *Cab. & Heine, Mus. Hein.* iv. p. 5, note (1862); *Gurney, Ibis*, 1862, p. 33; *Heugl. J. f. O.* 1862, p. 33; *Schl. Mus. Pays-Bas*, i. Cuculi, p. 1 (1864); *Layard, B. S. Afr.* p. 241; *id. Ibis*, 1869, p. 373; *Sharpe, Cat. Afr. B.* p. 14 (1871); *Heugl. Orn. N.O.-Afr.* ii. pp. 770, clx (1872); *Gurney in Anderss. B. Damara-Land*, p. 224 (1872); *Sharpe, P. Z. S.* 1873, p. 711; *Bouvier, Cat. Ois. Marche &c.* p. 30 (1875); *Sharpe in Rowley's Orn. Misc.* i. p. 204 (1876); *Bocage, Orn. Angola*, p. 136 (1877); *Sharpe, P. Z. S.* 1878, p. 795; *Garrod, P. Z. S.* 1878, p. 930; *Ayres, Ibis*, 1879, p. 297; *Sharpe, ed. Layard's B. S. Afr.* pp. 168, 810 (1875–84); *Fisch. Zeitschr. ges. Orn.* 1884, p. 365; *Böhm, J. f. O.* 1885, p. 57; *Fisch. t. c.* p. 124; *Dubois, Bull. Mus. Hist. Nat. Bely.* 1886, p. 147; *Shelley, P. Z. S.* 1888, p. 43, 1889, p. 356.

Indicator levaillantii (*nec Temm.*), *Leadb. Trans. Linn. Soc.* xvi. p. 85 (1829).

Indicator buphagoides, *Leadb. t. c.* p. 91.

Indicator flavicollis, *Swains. B. W. Afr.* ii p. 198 (1837).

Prodotes proditor, *Nitzsch, Pterylographie*, p. 131 (1840).
Indicator proditor, *Licht. Nomencl. Av.* p. 78 (1850).
Indicator archipelagicus (*nec Temm.*), *Heugl. Syst. Uebers.* p. 47 (1856).
Indicator barianus, *Heugl. Syst. Uebers.* p. 48 (1856); *Hartl. Orn. W.-Afr.* p. 274 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 5, note (1862); *Heugl. J. f. O.* 1862, p. 33, 1864, p. 265; *Finsch, Trans. Z. S.* vii. p. 287 (1870); *id. & Hartl. Vög. Ost-Afr.* p. 518 (1870); *Gray, Hand-l. B.* ii. p. 205, no. 8857 (1870); *Heugl. Orn. N.O.-Afr.* ii. p. 771 (1871); *Sharpe in Rowley's Orn. Misc.* i. p. 203, pl. upp. fig. (1876); *id. P. Z. S.* 1878, p. 795.

*Adult male.* Similar to *I. indicator*, but with barely a trace of yellow on the wing, and further differing in having no pale margins to the wing-coverts, and some of the feathers of the rump and upper tail-coverts entirely white, forming a patch of uniform white; chin and upper throat black, with some yellow on the base of the feathers; chest partially washed with yellow. Total length 6·8 inches, culmen 0·55, wing 4·3, tail 3·2, tarsus 0·7.

*Adult female.* Differs in having the bill darker; no trace of a yellow patch on the wing; the edges of the feathers of the crown, mantle, and wings washed with yellow; cheeks, ear-coverts, and sides of neck dark dusky brown; chin, throat, and fore part of chest washed with bright yellow: "bill black; iris red; bare skin round the eyes leaden grey; feet dusky" (*Emin Pasha*). Total length 7·3 inches, culmen 0·55, wing 4, tail 2·7, tarsus 0·65.

*Hab.* The greater portion of Tropical Africa, excepting the forest-region of the West Coast.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Senegambia. | Old Coll. |
| *c.* Ad. sk. | Casamance. | Sharpe Coll. |
| *d, e.* Ad. sk. | Bejook, Bogos-Land (*Esler*). | Sharpe Coll. |
| *f.* ♀ ad. sk. | Wadelai, Equatorial Africa, Sept. | Emin Pasha [P.]. |
| *g.* ♂ imm. sk. | Teita, E. Africa, Aug. | H. G. V. Hunter, Esq. [P.]. |
| *h.* Ad. sk. | Mombas (*Wakefield*). | R. B. Sharpe, Esq. [P.]. |
| *i, k, l, m.* Ad. sk. | Makalaka Country (*Bradshaw*). | Shelley Coll. |
| *n.* ♂ ad. sk. | Rustenberg, Jan. (*W. Lucas*). | Shelley Coll. |
| *o.* ♀ ad. sk. | Limpopo River, Aug. (*W. Lucas*). | Shelley Coll. |
| *p.* Ad. sk. | Cape Colony (*Butler*). | Shelley Coll. |
| *q.* Ad. sk. | South Africa. | Sharpe Coll. |

## 5. Indicator variegatus.

Grand Indicateur, femelle, *Levaill. Ois. Afr.* v. p. 104, pl. 241. fig. 2, ♀; *Sundev. Krit. Framst. om Levaill.* p. 50 (1857).
Indicator major, ♀, *Steph. Gen. Zool.* ix. p. 139, pl. 27. fig. 2; *Guér. Icon. Règne An., Ois.* pl. 32. fig. 2 (1829–38).
Indicator variegatus, *Less. Traité*, p. 155 (1831); *Gray, Gen. B.* ii. p. 451 (1847); *Pucher. Rev. et Mag. Zool.* 1853, p. 71; *Grill, Zool.*

*Anteckn.* p. 43 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 6 (1862); *Schl. Mus. Pays-Bas*, i. Cuculi, p. 2 (1864); *Layard, B. S. Afr.* p. 242 (1867); *Gray, Hand-l. B.* ii. p. 204, no. 8854; *Heugl. Orn. N.O.-Afr.* ii. p. 773, note (1871); *Sharpe, in Rowley's Orn. Misc.* i. p. 199 (1876); *id. P. Z. S.* 1878, p. 795; *id. ed. Layard's B. S. Afr.* pp. 167, 810 (1875–84); *Fisch. & Reichen. J. f. O.* 1879, p. 342; *Fisch. J. f. O.* 1885, p. 124; *Büttik. Notes Leyden Mus.* 1885, p. 249.

Indicator maculicollis, *Sunder. Œfv. K. Vet.-Ak. Förh.* 1850, p. 109.

Indicator levaillantii (*nec Temm.*), *Bp. Consp. Av.* i. p. 100 (1850).

*Adult male.* Forehead and anterior half of crown mottled, the centres of the feathers being black, their sides buff, and the tip olive; nape and back of neck ashy olive; back and wings brown, the feathers generally rather broadly edged with olive-yellow, and with narrower partial buff edges to some of the wing- and tail-coverts; tail similarly marked with black and white as in *I. indicator*, but the dark centre feathers narrowly edged with olive-yellow; sides of the head ashy grey, slightly streaked with white; chin and upper throat white, with dusky grey shafts; lower throat and fore part of chest dusky grey, with broad buff margins to the feathers, giving a spotted appearance; remainder of the breast buff, fading almost into white on the under tail-coverts; feathers of the sides of body, thigh-coverts, and under tail-coverts with rather broad dusky shaft-stripes; under wing-coverts white, partially mottled with dusky near the edge of the wing; under surface of the quills brown, with whitish inner edges: "upper mandible horny brown, lower one pale; iris greyish brown" (*Fischer*). Total length 7·3 inches, culmen 0·55, wing 4·5, tail 3·4, tarsus 0·7.

*Hab.* South Africa, extending into East Africa.

| | | | |
|---|---|---|---|
| *a.* Ad. sk. | South Africa. | Sharpe Coll. | |
| *b.* ♂ ad. sk. | Knysna, Jan. (*C. J. Andersson*). | Sharpe Coll. | |
| *c.* Ad. sk. | George (*T. C. Atmore*). | Sharpe Coll. | |
| *d.* ♂ ad. sk. | Beaufort (*T. C. Atmore*). | Shelley Coll. | |
| *e.* Ad. sk. | Usumbara Hills, Pangani River (*Sir J. Kirk*). | Shelley Coll. | |
| *f.* Ad. sk. | Mombasa (*Wakefield*). | R. B. Sharpe, Esq. [P.]. | |

### Subsp. *a.* **Indicator stictithorax.**

Indicator stictithorax, *Reichen. J. f. O.* 1877, p. 110, no. 3.

Indicator variegatus, *Reichen. J. f. O.* 1875, p. 6; *Shelley, P. Z. S.* 1881, p. 593.

*Adult female.* Differs from *I. variegatus* in being brighter, the yellowish-olive edges to the feathers of the back and wings broader and brighter, and the breast slightly yellower: "bill black; iris hazel; feet plumbeous" (*Schluss*). Total length 7 inches, culmen 0·55, wing 4, tail 2·7, tarsus 0·65.

*Hab.* Cameroons, West Africa.

| | | | |
|---|---|---|---|
| *a.* ♀ ad. sk. | Cameroon Mountains, 7000 feet. | H. H. Johnston, Esq. [P.]. | |

### 6. Indicator maculatus.

Indicator sparrmanni (*nec Steph.*), *Leadbeater, Trans. Linn. Soc.* xvi. p. 91 (1833).

Indicator maculatus, *Gray, Gen. B.* ii. p. 451, pl. 113 (1847); *Bp. Consp. Av.* i. p. 100 (1850); *Cass. Proc. Ac. N. Sc. Philad.* 1859, p. 142; *Heine, J. f. O.* 1860, p. 192; *Sharpe in Rowley's Orn. Misc.* i. p. 200 (1876); *id. P. Z. S.* 1878, p. 795; *Bocage, Jorn. Lisb.* 1880, p. 54; *id. Orn. Angola*, p. 542 (1881).

Indicator major (juv.), *Hartl. Orn. W.-Afr.* p. 183 (1857).

*Adult male.* Similar to *I. variegatus* in the colouring of the back, wings, and tail, but differing in the upper half and sides of the head being dusky blackish; chin, throat, and body dusky brown, with subterminal twin-spots of yellowish white on each feather; under tail-coverts white, with elongated dusky shaft-spots. Total length 6·6 inches, culmen 0·5, wing 4, tail 2·8, tarsus 0·7.

*Adult female.* "Similar in plumage to the male" (*Cassin*).

*Hab.* West Africa, from Senegambia to Gaboon.

*a.* Ad. sk. River Gambia. F. Campbell, Esq. [P.].

### 7. Indicator minor.

Le Petit Indicateur, *Levaill. Ois. Afr.* v. p. 137, pl. 242 (1806); *Sundev. Krit. om Levaill.* p. 50 (1857).

Indicator minor, *Steph. Gen. Zool.* ix. p. 140 (1815); *Vieill. Nouv. Dict.* xvi. p. 155 (1817); *Bonn. et Vieill. Enc. Méth.* p. 1351 (1823); *Less. Man. Orn.* p. 125 (1828); *id. Traité*, p. 155, pl. 22. fig. 1 (1831); *Swains. B. W. Afr.* ii. p. 196 (1837); *Rüpp. Neue Wirb., Vög.* p. 61 (1835–40); *Temm. Tabl. Méth.* p. 51 (1838); *Rüpp. Syst. Uebers.* p. 96 (1845); *Gray, Gen. B.* ii. p. 451 (1847); *Bp. Consp. Av.* i. p. 100 (1850); *Heugl. Syst. Uebers.* p. 48 (1856); *Hartl. Orn. W.-Afr.* p. 184 (1857); *Grill, Zool. Anteckn.* p. 43 (1857); *Gurney, Ibis*, 1859, p. 247, 1860, p. 205; *Hartl. J. f. O.* 1861, p. 264; *Cab. & Heine, Mus. Hein.* iv. p. 3 (1862); *Heugl. J. f. O.* 1862, p. 33, 1864, p. 267; *Kirk, Ibis*, 1864, p. 327; *Schl. Mus. Pays-Bas*, i. Cuculi, p. 2 (1864); *Layard, B. S. Afr.* p. 243 (1867); *Finsch & Hartl. Vög. Ost-Afr.* p. 515 (1870); *Finsch, Tr. Z. S.* vii. p. 287 (1870); *Heugl. Orn. N.O.-Afr.* ii. p. 771 (1871); *Sharpe, Cat. Afr. B.* p. 14 (1871); *Gurney in Anderss. B. Damara-Land*, p. 223 (1872); *Sharpe in Rowley's Orn. Misc.* i. p. 194 (1876); *id. ed. Layard's B. S. Afr.* pp. 169, 811 (1876–84); *Bocage, Orn. Angola*, p. 137 (1877); *Cab. J. f. O.* 1878, p. 237; *Sharpe, P. Z. S.* 1878, p. 795; *Fisch. & Reichen. J. f. O.* 1879, p. 341; *Hartl. Abhandl. nat. Ver. Brem.* viii. p. 209 (1882); *Fisch. J. f. O.* 1885, p. 124; *Dubois, Bull. Mus. Roy. Hist. Nat. Belg.* iv. p. 147 (1886); *Oust. Bibl. Hautes Etudes*, xxxi. *Revoil*, p. 3 (1886).

Indicator buphagoides, *Leadbeater, Trans. Linn. Soc.* xvi. p. 85 (1829).

Indicator minimus, *Temm. Pl. Col.* 542. fig. 1 (1822).

Indicator diadematus, *Rüpp. Neue Wirb.* p. 61 (1837).

Indicator apivorus, *Krebs, Mus. Berol.*, fide *Licht. Nomencl. Av.* p. 78 (1854).

Melignothes pachyrhynchus, *Heugl. J. f. O.* 1864, p. 266; *id. Orn. N.O.-Afr.* ii. p. 773 (1871); *Finsch & Hartl. Vög. Ost-Afr.* p. 517, note (1870); *Sharpe in Rowley's Orn. Misc.* i. p. 197, note (1876).

*Adult male.* Upper half of the head and back of neck ashy brown, with a slight yellow wash and a broad white band from the nostril to the cheek; back and wings brown, washed with deep yellow on the edges of the feathers; tail with the four centre feathers blackish brown, narrowly edged along their outer sides with olive-yellow: remaining tail-feathers white, with broad dark-brown ends; underparts ashy, fading into white on the chin, centre of abdomen, and under tail-coverts, and a broad dusky band below the cheeks and ear-coverts; thigh-coverts with broad, somewhat obscure, dusky shaft-stripes; under wing-coverts and inner edges of the quills whitish: "iris brown; bill—upper mandible black, lower one brown, flesh-colour at base; legs dull olive" (*T. L. Ayres*). Total length 6 inches, culmen 0·4, wing 3·5, tail 2·5, tarsus 0·6.

*Adult female.* Similar in plumage to the male. Total length 5·1 inches, culmen 2·4, wing 3·4, tail 2·5, tarsus 0·6.

*Hab.* The greater part of Tropical Africa, except the forest-region of the West Coast.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Cape Colony. | Shelley Coll. |
| *c.* ♂ ad. sk. | Eland's Post (*T. C. Atmore*). | Sharpe Coll. |
| *d.* Ad. sk. | Kingwilliamstown (*Trevelyan*). | R. B. Sharpe, Esq. [P.]. |
| *e, f, g.* Ad. sk. | Natal. | Seebohm Coll. |
| *h.* Ad. sk. | Durban (*Gordge*). | Shelley Coll. |
| *i.* Ad. sk. | Pinetown, Oct. (*T. L. Ayres*). | Shelley Coll. |
| *k.* ♂ ad.: *l, m.* ♀ ad. sk. | Swazi-Land (*T. E. Buckley*). | Shelley Coll. |
| *n, o, p.* ♂ ad. sk. | Otjimbinque, Damara-Land, Oct. (*C. J. Andersson*). | Sharpe Coll. |
| *q.* Ad. sk. | Near Bagamoyo. | Emin Pasha [P.]. |
| *r.* ♂ ad. sk. | Waliko, Bogos-Land (*W. Jesse*). | Tweeddale Coll. |

### 8. Indicator conirostris.

Melignothes conirostris, *Cass. Proc. Ac. N. Sc. Philad.* 1856, p. 156, 1859, pl. ii.; *Hartl. J. f. O.* 1861, p. 264.

Indicator conirostris, *Hartl. Orn. W.-Afr.* p. 184 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 4, note (1862); *Gray, Hand-l. B.* ii. p. 205, no. 8859 (1870); *Bourier, Cat. Ois. Marche &c.* p. 30 (1875); *Sharpe in Rowley's Orn. Misc.* i. p. 196 (1876); *id. P. Z. S.* 1878, pp. 793, 795.

Indicator occidentalis, *Verr. in Hartl. Orn. W.-Afr.* p. 185, note (1857).

*Adult.* Similar in plumage to *I. minor*, but differing in the upper parts being brighter, the ground-colour of all the feathers being nearly black, with broader and brighter yellow edges not only to the feathers of the back and wings, but also of the crown and hind neck; lores and chin mottled with black; thigh-coverts with broad black shaft-stripes. Total length 6 inches, culmen 0·4, wing 3·6, tail 2·5, tarsus 0·65.

*Hab.* West Africa, from the Gold Coast to Gaboon.

| | | |
|---|---|---|
| *a.* Ad. sk. | Gold Coast (*Aubinn*). | Shelley Coll. |
| *b.* Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |

### 9. Indicator exilis.

Melignothes exilis, *Cass. Proc. Ac. N. Sc. Philad.* 1856, p. 157, 1859, p. 142, pl. i. fig. 1; *Hartl. J. f. O.* 1861, p. 264.
Indicator exilis, *Hartl. Orn. W.-Afr.* p. 185 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 4, note (1862); *Gray, Hand-l. B.* ii. p. 205, no. 8862 (1870); *Sharpe in Rowley's Orn. Misc.* i. p. 198 (1876); *id. & Bouvier, Bull. Soc. Zool. France*, i. p. 51 (1876); *Sharpe, P. Z. S.* 1878, pp. 794, 795; *Bocage, Orn. Angola*, p. 542 (1881).
Melignostes exilis, *Heine, J. f. O.* 1860, p. 192.

*Adult female.* Similar to *I. minor*, but much smaller; crown and chin slightly mottled with darker centres to the feathers; the white patch near the nostril scarcely so distinct; the dark shaft-stripes on the thigh-coverts more distinct. Total length 4·3 inches, culmen 0·3, wing 2·75, tail 1·7, tarsus 0·4.

*Hab.* West Africa, from Gaboon to the Congo.

| | | | |
|---|---|---|---|
| *a.* | Ad. sk. | Camma River. | P. B. DuChaillu [C.]. |
| *b.* | ♀ ad. sk. | Landana, Congo, March (*Petit*). | Shelley Coll. |

## 2. PRODOTISCUS.

| | Type. |
|---|---|
| Prodotiscus, *Sundev. Œfvers. Vet.-Ak. Förh.* 1850, p. 109. | P. regulus. |
| Hetærodes, *Cass. Proc. Ac. N. Sc. Philad.* 1856, p. 157... | P. insignis. |

*Range.* Confined to Africa.

*Key to the Species.*

*a.* Brown, with no olive or yellow shade; with only a portion of the outer tail-feathers white ..... *regulus*, p. 11.
*b.* More olive; quills and upper tail-coverts edged with bright yellow; three outer pairs of tail-feathers entirely white ..... *insignis*, p. 12.

### 1. Prodotiscus regulus.

Prodotiscus regulus, *Sundev. Œfvers. Vet.-Ak. Förh.* 1850, p. 109; *Hartl. Orn. W.-Afr.* p. 186 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 5, note (1862); *Sharpe in Rowley's Orn. Misc.* i. p. 208, pl. lower figure (1876); *id. ed. Layard's B. S. Afr.* pp. 171, 811 (1875–84); *Bocage, Jorn. Lisb.* 1880, p. 335; *id. Orn. Angola*, p. 542 (1881).
Indicator regulus, *Licht. Nomencl. Av.* p. 78 (1854); *Gray, Hand-l. B.* ii. p. 205, no. 8863 (1870).

*Adult female.* General plumage above uniform brown; tail blackish brown, with a large basal portion of the outer three feathers on each side white; underparts white, strongly washed with pale brown on the throat and flanks; under wing-coverts white, slightly washed with brown; under surface of the quills

brown, with white inner margins; bill and feet blackish. Total length 4·8 inches, culmen 0·45, wing 3, tail 2·25, tarsus 0·45.

*Hab.* Natal.

| | | |
|---|---|---|
| *a*. Ad. sk. | Natal. | Purchased. |
| *b*. ♀ ad. sk. | Natal, Aug. (*Wahlberg*) | Sharpe Coll. |

### 2. Prodotiscus insignis.

Hetærodes insignis, *Cass. Proc. Ac. N. Sc. Philad.* 1856, p. 157, 1859, p. 142, pl. i. fig. 2; *Heine, J. f. O.* 1860, p. 192.

Indicator insignis, *Hartl. Orn. W.-Afr.* p. 185 (1857); *Gray, Hand-l. B.* ii. p. 205, no. 8864.

Prodotiscus insignis, *Cab. & Heine, Mus. Hein.* iv. p. 5, note (1862); *Heugl. Orn. N.O.-Afr.* ii. p. 774, note (1871); *Sharpe in Rowley's Orn. Misc.* i. p. 208 (1876).

Indicator emini, *Shelley, P. Z. S.* 1888, p. 43, pl. iii.

*Adult male.* Upper parts dusky brown, very slightly shaded with olive on the crown and back of the neck, slightly more so with deep yellow on the back and scapulars, increasing in the amount of yellow on the rump, where the feathers show white ends; wings dark brown, the coverts shading into olive-yellow on their edges, the quills edged with deep yellow; four centre tail-feathers entirely brown, the remaining six white, with the base only of the next pair to the four centre feathers brown; underparts, including the under tail-coverts, ashy brown, fading into white on the centre and sides of the abdomen behind the thighs. Total length 4·6 inches, culmen 0·3, wing 2·6, tail 2·1, tarsus 0·5.

*Hab.* Gaboon to Equatorial Africa.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Bellima, Equatorial Africa, June. | Emin Pasha [P.]. (Type of *I. emini*.) |

# Family CAPITONIDÆ.

(By G. E. SHELLEY.)

Palate sometimes ægithognathous, sometimes desmognathous.

Vomer single, bifid. Manubrial process of the sternum pointed.

Femoro-caudal and accessory semitendinosus muscles present; ambiens and accessory femoro-caudal absent.

Tail-feathers ten.

Pterylosis: ventral feather-tract forked on the throat and on each side of the breast.

Oil-gland tufted.

Cæca none.

Ranging over the whole of the Æthiopian Region, the Indian and Indo-Chinese Regions, and the Indo-Malayan Subregion. The Neotropical Region in the New World.

Although the limits of this family appear to be well defined, the characters used for the separation of genera are by no means easy to distinguish, and in any case they are difficult to formulate. The *Capitonidæ* appear to me to constitute a family of Picarian birds in which no single character for the separation of genera can be considered to be absolute, and even style of coloration is of no avail as a generic character. As a rule the plumage is gaudy and the contrasts striking; but there are some genera, such as *Calorhamphus* and *Gymnobucco*, which it would be difficult to match for dullness of coloration. Scarcely one of the genera admitted here is so well defined that it does not form a link towards some other genus, and *Pogonorhynchus* and its allies may well be considered as subgenera belonging to one leading type, of which the toothed bill is the most prominent feature. The same may be said of *Barbatula* and *Smilorhis*, and *Megalæma* and *Cyanops*.

*Key to the Genera.*

A. Tip of lower mandible fitting into the tip of upper mandible.
  *a*. Edge of upper mandible distinctly toothed *.
    *a'*. Chin-angle hidden by a double tuft of dense bristly plumes; upper mandible sulcated.
      *a''*. Lower mandible deeply sulcated, the base hidden by dense bristles .. [p. 15. 1. Pogonorhynchus,
      *b''*. Base of lower mandible perfectly smooth, the bristles not so dense as to conceal the base ..... [p. 16. 2. Erythrobucco,

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* *Tricholæma affinis* and *T. melanocephala* are exceptions in a way, the tooth being scarcely distinguishable and nearly obsolete.

*b'*. Chin-angle beset with scattered bristles, not so dense as to conceal it.
*c''*. Breast-feathers not having produced hair-like shafts; plumage varied but not yellow-spotted ..... 3. MELANOBUCCO, [p. 17.
*d''*. Breast-feathers with well-marked hair-like shafts *; plumage spotted with yellow, and quills edged with yellow ..... 4. TRICHOLÆMA, [p. 28.
*b*. Edge of the upper mandible entire, never toothed.
*c'*. Culmen distinctly ridged at base, sometimes forming a distinct crest, elevated and sharply defined.
*e''*. Terminal half of bill pointed and wedge-shaped; chin-angle rounded and more or less beset with bristles.
*a'''*. Head bare, the nostrils and ear-orifice exposed; with a tuft of bristly plumes about the nostril or on the chin ..... 5. GYMNOBUCCO, [p. 34.
*b'''*. Ear-orifice covered with feathers; crown always feathered.
*a*⁴. Nostrils surmounted by a tuft of dense erect bristles ..... 6. HELIOBUCCO, p. 36.
*b*⁴. Nostrils visible, with a few overhanging bristles, but not concealed by bristly tufts.
*a*⁵. With a bare space round the eye; nasal aperture rounded and evident.
*a*⁶. Wing rather pointed, the primaries exceeding the secondaries by more than the length of the culmen; on the latter a well-marked crest ..... 7. SMILORHIS, p. 36.
*b*⁶. Wings more rounded; the secondaries nearly equal to the primaries, the difference between them not so great as the length of the culmen; the latter not definitely crested .... 8. BARBATULA, p. 38.
*b*⁵. With no bare space round the eye; the nasal aperture concealed ..... 9. STACTOLÆMA, [p. 48.
*f''*. Bill strongly curved; chin-angle acute; no bristles on the chin .... 10. CALORHAMPHUS, [p. 49.
*d'*. Culmen rounded at base and along its entire length; no culminal ridge.
*g''*. Sexes alike; tail square or gradually rounded, the outer feathers not much shorter than the others.

* In some species this character is extraordinarily developed; in young birds it is almost always obsolete. The name is badly chosen, as it is not the throat but the breast which has the hairy feathering.

*c'''*. Nostrils completely hidden by feathers; tail long, extending beyond wing by more than length of tarsus ..... 11. MEGALÆMA, p. 52.
*d'''*. Nostrils rounded and exposed, never hidden by bristles.
*c*⁴. Culmen longer than tarsus .... 12. CHOTORHEA, p. 55.
*d*⁴. Culmen not exceeding tarsus in length.
*c*⁵. Bill pointed, acute, the culmen far exceeding in length the breadth of bill at gape.
*c*⁶. Rictal bristles moderate, not reaching to end of bill..... 13. CYANOPS, p. 61.
*d*⁶. Rictal bristles produced far beyond tip of bill..... 14. MESOBUCCO, p. 85.
*d*⁵. Bill obtuse and short, culmen about equal to breadth of gape ..... 15. XANTHOLÆMA, [p. 88.
*h''*. Sexes alike; tail very strongly graduated, the outer feathers falling short of the inner ones by as much as the length of the tarsus or even more.
*e'''*. Base of culmen hidden by tufts of bristles, which overhang two-thirds of the culmen; centre tail-feathers produced and pointed ..... 16. PSILOPOGON, p. 98.
*f'''*. Base of culmen exposed; centre tail-feathers square ..... [p. 99. 17. TRACHYPHONUS,
*i''*. Sexes markedly different; outer tail-feather much shorter than the centre ones ..... 18. CAPITO, p. 107.

B. Tip of under mandible truncated and widened out beyond the edge of the upper mandible ..... [p. 120. 19. TETRAGONOPS,

## 1. POGONORHYNCHUS.

| | Type. |
|---|---|
| Pogonias, *Ill. Prodromus*, p. 202 (1811) ..... | P. dubius. |
| Pogonorhynchus, *Van der Hoeven, Handb.* ii. p. 461 (1833) ..... | P. dubius. |
| Laimodon, *Gray, List Gen. B.* p. 69 (1841) ..... | P. dubius. |
| Pogonorhamphus, *Des Murs in Chenu's Encycl. d'Hist. Nat., Ois.* ii. p. 14 (1854) ..... | P. dubius. |

*Range*. Confined to Africa.

### 1. Pogonorhynchus dubius.

Le Barbican, *Buff. Hist. Ois.* vii. p. 132 (1780); *Levaill. Ois. de Paradis, Barbus*, ii. p. 53, pl. 19 (1806).
Le Barbican des côtes de Barbarie, *Daubent. Pl. Enl.* viii. p. 602.
Doubtful Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 506 (1783).
Bucco dubius, *Gm. Syst. Nat.* p. 409 (1788).

Pogonias dubius, *Illiger, Prodr.* p. 202 (1811); *Bonap. Consp. Av.* p. 145 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 167 (1857); *Verr. P. Z. S.* 1859, p. 394; *Bocage, Jorn. Lisb.* i. p. 143 (1867).

Pogonias sulcirostris, *Leach, Zool. Misc.* ii. p. 46, pl. 76 (1815); *Wagl. Syst. Av.* Pogonias, sp. 1, p. 164 (1827); *Swains. B. W. Afr.* ii. p. 166 (1837).

Pogonia erythromelas, *Vieill. N. Dict. d'Hist. Nat.* iii. p. 236 (1816); *id. Gal. Ois.* i. p. 18, pl. 32 (1825).

Pogonias major, *Cuv. Règne An.* i. p. 428 (1817); *Less. Traité*, p. 159 (1831).

Pogonorhynchus dubius, *Van der Hoeven, Handb.* ii. p. 461 (1835); *Goffin, Mus. Pays-Bas*, Buccones, p. 1 (1863); *Gray, List Capit. in Brit. Mus.* p. 1 (1868); *Heugl. Orn. N.O.-Afr.* ii. pp. 752, clviii (1871); *Gray, Hand-l. B.* ii. p. 172, no. 8418 (1870); *Marshall, Mon. Capit.* p. 7, pl. 4 (1871); *Sharpe, Cat. Afr. B.* p. 15 (1871); *Bouvier, Cat. Ois. Marche &c.* p. 29 (1875); *Oust. Nouv. Arch. Mus.* (2) ii. *Bull.* p. 150 (1879).

Laimodon dubius, *Gray, Gen. B.* ii. p. 428 (1846).

Pogonorhamphus dubius, *Des Murs in Chenu's Encycl. d'Hist. Nat., Ois.* ii. pp. 14, 15 (1855).

*Adult.* Above glossy purplish black; centre of lower back white, forming a conspicuous patch; wings and tail like the back, the quills blackish, externally glossy purplish black; the greater coverts washed with dark crimson near the base of the outer web; crown of head like the back; lores and feathers below the eye black, with crimson tips; ear-coverts and cheeks crimson, separated by a black line, which commences below the eye; throat and fore neck crimson, followed by a broad black band across the breast; centre of breast and abdomen scarlet, slightly varied with yellow tips to the feathers; sides of scarlet abdomen, as well as a large patch on the sides of the body white, washed with pale yellow; flanks, thighs, and under tail-coverts glossy purplish black; under wing-coverts ashy white, with those round the edge of the wing black; quills ashy below, yellowish white along the inner web. Total length 9·5 inches, culmen 1·45, wing 4·5, tail 3·3, tarsus 1·1.

A specimen in my collection, probably an adult female, has the white patch on the sides of the body spotted with black.

*Hab.* West Africa, from Senegambia to the River Niger.

| | | |
|---|---|---|
| *a.* Ad. sk. | River Gambia. | Shelley Coll. |
| *b, c.* Ad. sk. | Bathurst, River Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *d–f.* Ad. sk. | River Gambia. | Sharpe Coll. |
| *g.* Ad. sk. | Senegambia (*L. Laglaize*). | Tweeddale Coll. |
| *h.* Ad. sk. | River Niger (*Dr. Baikie*). | Sharpe Coll. |

## 2. ERYTHROBUCCO.

| | Type. |
|---|---|
| Erythrobucco, *Shelley, Ibis*, 1889, p. 475..... | E. rolleti. |

*Range.* North-east Africa.

### 1. Erythrobucco rolleti.

Pogonias rolleti, *Defilippi, Rev. Zool.* 1853, p. 290; *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 169 (1857); *Verr. P. Z. S.* 1859, p. 394; *Heugl. J. f. O.* 1863, p. 270; *Antin. Cat. descr. Ucc.* p. 80 (1864); *Hartl. Abh. nat. Ver. Bremen*, Bd. vii. p. 112 (1881).

Pogonorhynchus rolleti, *Heugl. Ibis*, 1861, pp. 123, 125, pl. 5. fig. 1; *Goffin, Mus. Pays-Bas*, Buccones, p. 2 (1863); *Salvad. Atti R. Accad. Sci. Torino*, iii. p. 280 (1868); *Gray, List Capit. Brit. Mus.* p. 2 (1868); *id. Hand-l. B.* ii. p. 172, no. 8419 (1870); *Heugl. Orn. N.O.-Afr.* pp. 750, clviii, pl. 27. fig. 1 (1870); *Marshall, Mon. Capit.* p. 9, pl. 5 (1871); *Pelz. Sitz. zool.-bot. Wien*, xxxi. p. 615 (1881); *Hartl. Abh. nat. Ver. Bremen*, viii. p. 209 (1883); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 431 (1884).

Erythrobucco rolleti, *Shelley, Ibis*, 1889, p. 476.

*Adult male**. Similar to *Pogonorhynchus dubius*, but having the whole of the throat and breast black; only a slight tinge of crimson on the greater wing-coverts, this being absent in some specimens: "bill horny white, pale leaden at base: bare orbital skin violet-blue; feet dusky; iris umber-brown" (*Heuglin*). Total length 9·5 inches, culmen 1·5, wing 4·4, tail 3·3, tarsus 1·05.

*Hab.* N.E. Africa.

| | | | |
|---|---|---|---|
| *a*. | Ad. sk. | N.E. Africa. | Purchased. |
| *b*. | ♂ ad. sk. | Kiri, Equatorial Africa, Oct. 22 (*Emin Pasha*). | Shelley Coll. |
| *c*. | ♂ ad. sk. | Faradjok, Sept. (*Emin Pasha*). | Shelley Coll. |
| *d*. | ♂ ad. sk. | Kutschugali, Niam-Niam Country, Sept. | F. Bohndorff. |

### 3. MELANOBUCCO.

| | Type. |
|---|---|
| Melanobucco, *Shelley, Ibis*, 1889, p. 476 ..... | M. bidentatus |

*Range.* Confined to Africa.

*Key to the Species.*

*a*. Bill pale, not black.
  *a'*. Abdomen crimson; under tail-coverts black.
    *a''*. A scarlet band across the wing ..... *bidentatus*, p. 18.
    *b''*. A rosy band across the wing ..... *æquatorialis*, p. 19.
  *b'*. Abdomen and under tail-coverts white; throat red ..... *melanopterus*, p. 19.
  *c'*. Abdomen orange-red; under tail-coverts white; throat white ..... *levaillanti*, p. 20.
*b*. Bill black or nearly so.
  *d'*. Entire head and neck white.
    *c''*. Abdomen brown; wing-coverts tipped with white.
      *a'''*. Tail brown ..... *leucocephalus*, p. 21.

* Count Salvadori has drawn attention to the difference in the colour of the flanks which exists in a series of this species and also in the red-breasted section of the genus *Melanobucco*, and suggests that the black-spotted individuals are the females. This proposition seems to me to be highly probable.

*b'''*. Tail white ..... } *albicauda*, p. 21.
*d''*. Abdomen white; no white on median and greater wing-coverts ..... } *senex*, p. 22.
*leucogaster*, p. 22.

*e'*. Throat and fore part of crown red.
*e''*. Back and abdomen black ..... *abyssinicus*, p. 22.
*f''*. Back and abdomen not black.
*c'''*. With a black collar.
*a*⁴. Larger; freckling on the back and wing-coverts very indistinct ..... *torquatus*, p. 24.
*b*⁴. Smaller; freckling on the back and wing-coverts more coarsely indicated. *irroratus*, p. 25.
*d'''*. With no black collar ..... *vieilloti*, p. 26.
*f'*. No red on the throat; forehead red ..... *undatus*, p. 27.

### 1. Melanobucco bidentatus.

Bucco bidentatus, *Shaw, Nat. Hist. Miscell.* x. pl. 393 (1798); *Hartl. J. f. O.* 1861, p. 262.
Le Barbican unibec, *Levaill. Barbus, Suppl.* pl. 48. fig. K (1806).
Pogonias lævirostris, *Leach, Zool. Miscell.* ii. p. 47, pl. 77 (1815); *Wagl. Syst. Av.* Pogonias, p. 164 (1827); *Cuv. Règne An.* p. 457, note (1829).
Bucco leuconotus, *Vieill. N. Dict. d'Hist. Nat.* iii. p. 242 (1816).
Laimodon bidentatus, *Gray, Gen. B.* ii. p. 426 (1846).
Pogonias bidentatus, *Bonap. Consp. Av.* i. p. 145 (1850); *Hartl. Orn. W.-Afr.* p. 170 (1857); *Verr. P. Z. S.* 1859, p. 394; *Gurney, Ibis*, 1859, p. 153; *Bocage, Jorn. Lisb.* i. p. 143 (1868), ii. p. 348 (1870).
Pogonorhynchus bidentatus, *Goffin, Mus. Pays-Bas*, Buccones, p. 3 (1863); *Gray, List Capit. Brit. Mus.* p. 2 (1868); *Sharpe, Ibis*, 1869, p. 193; *Gray, Hand-l. B.* ii. p. 172, no. 8420 (1870); *Marshall, Mon. Capit.* p. 11, pl. 6 (1870); *Sharpe, Cat. Afr. B.* p. 15 (1871); *Ussher, Ibis*, 1874, p. 54; *Bouvier, Cat. Ois. Marche &c.* p. 29 (1875); *Reichen. J. f. O.* 1877, p. 18; *Bouvier, Bull. Soc. Zool. France*, ii. p. 77 (1877); *Oust. Nouv. Arch. Mus.* (2) ii. p. 63 (1879); *Bocage, Orn. Angola*, p. 105 (1881); *Souza, Jorn. Lisb.* 1887, p. 218.
Laimodon lævirostris, *Rüpp. Syst. Uebers.* p. 95 (1845); *Heugl. Syst. Uebers.* p. 47 (1856).
? Pogonorhynchus bidentatus, *Heugl. Ibis*, 1861, p. 123; *id. Orn. N.O.-Afr.* pp. 753, clviii (1870).
Melanobucco bidentatus, *Shelley, Ibis*, 1889, p. 476.

*Adult.* Black and red, like *Pogonorhynchus dubius*, with a white patch on the back, but distinguished by the absence of the black band across the breast, the whole of the throat, breast, and abdomen being crimson, the latter somewhat inclining to scarlet; the crown is also washed with dark crimson, and there is a band across the wing formed by the scarlet tips to the greater coverts: the black bristles on the chin are not nearly so developed, and there are no sulcations on the lower mandible: "iris dark chestnut" (*J. Souza*). Total length 9 inches, culmen 1·2, wing 3·8, tail 2·91, tarsus 1·05.

*Hab.* West Africa, from Gold Coast to Angola.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | West Africa. | Purchased. |
| *c*. Ad. sk. | Sierra Leone. | Tweeddale Coll. |

| | | |
|---|---|---|
| *d*, *e*. Ad. et juv. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *f*. Ad. sk. | Gold Coast (*A. Swanzy*). | Shelley Coll. |
| *g*. Ad. sk. | Abrobonko, Fantee, Jan. (*G. E. S.*). | Shelley Coll. |
| *h*, *i*. Ad. sk. | Accra. | Sharpe Coll. |

### 2. Melanobucco æquatorialis. (Plate I.)

? Pogonorhynchus dubius, *Sharpe & Bouvier*, *Bull. Soc. Zool. France*, i. p. 311 (1876); *Bocage*, *Orn. Angola*, App. p. 538 (1881).
Pogonias bidentatus (*nec Shaw*), *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 112 (1881).
Pogonorhynchus bidentatus (*nec Shaw*), *Sharpe*, *Journ. Linn. Soc.*, *Zool.* xvii. p. 432 (1884); *Shelley*, *P. Z. S.* 1888, p. 41.
Melanobucco æquatorialis, *Shelley*, *Ibis*, 1889, p. 476.

*Adult male.* Similar to *M. bidentatus*, but easily distinguished by the rosy instead of scarlet band on the wing: "bill horny white; naked skin round the eye sulphur-yellow, tinged with reddish; iris umber-brown" (*Emin*). Total length 9 inches, culmen 1·2, wing 4·1, tail 2·95, tarsus 1.

*Adult female.* Similar to the male. Total length 9·5 inches, culmen 1·2, wing 4, tail 2·95, tarsus 1.

*Hab.* Equatorial Africa, probably extending through the Congo region.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | Hparo, Equatorial Africa, Feb. 16. | Emin Pasha [P.]. |
| *c*. Ad. sk. | Semmio, Niam-Niam Country, Jan. | F. Bohndorff [C.] |

### 3. Melanobucco melanopterus.

Pogonias (Laimodon) melanopterus, *Peters*, *Bericht Akad. Berlin*, 1854, p. 134.
Laimodon albiventris, *Verr. P. Z. S.* 1859, pp. 393, 395, pl. 157.
Pogonorhynchus melanopterus, *Goffin*, *Mus. Pays-Bas*, Buccones, p. 6, note (1863); *Gray*, *List Capit. Brit. Mus.* p. 3 (1868); *Cab. in Von der Decken*, *Reis.* iii. p. 39 (1869); *Gray*, *Hand-l. B.* ii. p. 173, no. 8428 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 504 (1870); *Marshall*, *Mon. Capit.* p. 13, pl. 7 (1871); *Nicholson*, *P. Z. S.* 1878, p. 359; *Cab. J. f. O.* 1878, p. 239; *Fischer & Reichen. t. c.* p. 253; *Fischer*, *t. c.* p. 292; *id. J. f. O.* 1879, p. 291; *Fischer & Reichen. t. c.* p. 342; *Shelley*, *P. Z. S.* 1881, p. 592; *Fischer*, *Zeitschr. ges. Orn.* i. p. 370 (1884); *id. J. f. O.* 1885, p. 125; *Shelley*, *Ibis*, 1888, p. 291; *id. P. Z. S.* 1889, p. 356.
Melanobucco melanopterus, *Shelley*, *Ibis*, 1889, p. 476.

*Adult.* General colour above brown, with white shaft-lines; the mantle rather blacker and less distinctly streaked; rump and upper tail-coverts blackish, with white shaft-lines; wing-coverts and quills brown, externally glossy black, with white shaft-streaks, the shafts of the quills light brown; tail-feathers black; forehead scarlet, the hinder crown and nape blue-black, the feathers tipped with scarlet: sides of face, cheeks, ear-coverts, and throat bright scarlet; fore neck and breast brown, with white shaft-streaks, some

of the feathers blackish; remainder of under surface of body white, with a patch of blackish or brown feathers on the flanks, streaked as usual with white shaft-lines; under wing- and tail-coverts white, as also the quill-lining: "bill clear horny bluish grey; feet dark leaden grey: iris brown" (*G. A. Fischer*). Total length 7·4 inches, culmen 1, wing 3·8, tail 2·6, tarsus 0·9.

*Young.* Browner than the adult and less distinctly streaked both on the back and breast; the red on the forehead and sides of face and throat of a paler scarlet, the crown black with spots of pale scarlet.

*Hab.* Confined to Eastern Africa.

| | | |
|---|---|---|
| *a.* Ad. sk. | Lamu, E. Africa (*Sir J. Kirk*). | Shelley Coll. |
| *b, c.* Ad. et juv. sk. | Usambara Hills (*Kirk*). | Shelley Coll. |
| *d.* Ad. sk. | Pangani River (*Kirk*). | Shelley Coll. |
| *e.* Ad. sk. | Ugogo (*Kirk*). | Shelley Coll. |
| *f.* Ad. sk. | Rovuma River (*J. Thomson*). | Shelley Coll. |
| *g.* Juv. sk. | Zanzibar. | Sir Bartle Frere [P.]. |
| *h.* ♂ ad. sk. | Taveta, June. | H. C. V. Hunter, Esq. [P.]. |
| *i.* Ad. sk. | Kilimanjaro. | F. J. Jackson, Esq. [P.]. |

### 4. Melanobucco levaillanti.

Le Barbican à ventre rose, *Levaill. Barbus*, p. 85, pl. A (1806).
Bucco levaillantii, *Vieill. N. Dict. d'Hist. Nat.* iii. p. 243 (1816).
Pogonias levaillantii, *Leach, Zool. Misc.* ii. p. 146, pl. cxvii. (1815).
Pogonias minor, *Cuv. Règne An.* i. p. 428, note (1817).
Pogonorhynchus eogaster, *Cab. J. f. O.* 1876, p. 92, pl. ii. fig. 1; *Reichen. J. f. O.* 1877, p. 18; *Bouvier, Bull. Soc. Zool. France*, i. p. 229, pl. vi. fig. 2 (1876).
Pogonorhynchus bidentatus, juv., *Bocage, Orn. Angola*, p. 105 (1881).
Pogonorhynchus levaillantii, *Bouvier, Bull. Soc. Zool. France*, ii. p. 77 (1877); *Bocage, Orn. Angola*, App. p. 538 (1881).
Melanobucco levaillanti, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* General colour above blackish chocolate, becoming deeper black towards the rump and upper tail-coverts; wing-coverts and quills chocolate-brown, with glossy black edges; tail-feathers black; forehead and sinciput scarlet; hinder crown and nape, sides of the face, ear-coverts, cheeks, and sides of neck ashy brown; throat and under surface of body white, with a tinge of yellow on the sides of the body; the lower abdomen pale vermilion; on each side of the vent a large patch of blue-black feathers; under wing- and tail-feathers white; quills brown below, ashy white along the inner web: "bill clear horny brown or flesh-colour: feet rosy or brownish rosy; iris orange" (*Falkenstein*). Total length 6·8 inches, culmen 0·85, wing 3·6, tail 2·8, tarsus 0·9.

*Hab.* Congo region in Western Africa.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Landana, Congo (*L. Petit*). | Shelley Coll. |

### 5. Melanobucco leucocephalus.

Laimodon leucocephalus, *Defilippi, Rev. et Mag. de Zool.* 1853, p. 291; *Verr. P. Z. S.* 1859, p. 395; *Antin. Cat. descr. Ucc.* p. 81 (1864); *Salvad. Atti R. Accad. Sci. Torino*, iii. p. 281 (1868).
Pogonorhynchus leucocephalus, *Heugl. Ibis*, 1861, p. 123, pl. 10. fig. 2; *Goffin, Mus. Pays-Bas*, Buccones, p. 4 (1863); *Gray, List Capit. Brit. Mus.* p. 2 (1868); *id. Hand-l. B.* ii. p. 172, no. 8421 (1870); *Heugl. Orn. N.O.-Afr.* pp. 754, clviii, pl. 27. fig. 2 (1870); *Marshall, Mon. Capit.* p. 15, pl. 8 (1871); *Sharpe, Cat. Afr. B.* p. 15 (1871); *Pelz. Sitz. zool.-bot. Wien*, xxxi. p. 153 (1881); *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 209 (1883); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 432 (1884).
Pogonias leucocephalus, *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 112 (1881).
Melanobucco leucocephalus, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* General colour above brown, blacker on the centre of the back, the mantle slightly streaked with white shaft-lines, the scapulars and wing-coverts with more distinct and triangular white centres to the feathers; greater coverts white, or white with brown bases; primary-coverts and bastard-wing brown with white tips; quills dark brown, with pale-brown shafts, the inner secondaries with white spots at their ends; lower back and upper tail-coverts white; tail-feathers black; crown of head, nape, throat, and chest pure white; breast and sides of the body blackish brown, streaked with white centres to the feathers; under tail-coverts white, as also the under wing-coverts and quill-lining: "bill and feet leaden black; bare eyelids violet lead-colour; iris umber-brown" (*Heuglin*). Total length 7·2 inches, culmen 1, wing 3·5, tail 2·1, tarsus 0·9.

*Adult female.* Similar in plumage to the male. Total length 7·3 inches, culmen 0·9, wing 3·45, tail 2, tarsus 0·9.

*Hab.* North-eastern Africa, extending into Equatorial Africa.

| | | | |
|---|---|---|---|
| *a.* | Ad. sk. | Soudan (*Knoblecker*). | Sharpe Coll. |
| *b.* | ♂ ad. sk. | Kiri, Equatorial Africa, Oct. 19 (*Emin Pasha*). | Shelley Coll. |
| *c.* | ♀ ad. sk. | Redjaf, May 11. | Emin Pasha [P.]. |
| *d.* | ♂ ad. sk. | Kutschugali, Niam-Niam Country, Oct. | F. Bohndorff [C.]. |

### 6. Melanobucco albicauda.

Pogonorhynchus leucocephalus, *Cab. J. f. O.* 1878, p. 239.
Pogonorhynchus albicauda, *Shelley, Ibis*, 1881, p. 117; *id. P. Z. S.* 1881, p. 592; *Fischer, Zeitschr. ges. Orn.* i. p. 370 (1884); *id. J. f. O.* 1885, p. 125; *Reichen. J. f. O.* 1887, p. 59.
Melanobucco albicauda, *Shelley, Ibis*, 1889, p. 476.

*Adult* (type of species). Similar to *M. leucocephalus*, but distinguished by the white tail, the centre feathers of which are blackish brown at the base; the feathers of the back and breast are not

centred with white, but only narrowly edged with whitish. Total length 7·5 inches, culmen 1, wing 3·7, tail 2·2, tarsus 0·95.

*Hab.* Eastern Africa.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. (Type of species.) |

### 7. Melanobucco senex.

Pogonorhynchus leucocephalus (*nec Heugl.*), *Cab. J. f. O.* 1878, p. 239.
Pogonorhynchus senex, *Reichen. J. f. O.* 1887, p. 59.
Melanobucco senex, *Shelley, Ibis*, 1889, p. 476.

Neck and upper part of the back as well as the wings blackish brown; all the rest of the plumage—to wit, the head, entire under surface of body, scapulars, rump, and tail—white; lower back streaked with black on a white ground. Both the white shoulder-bands are joined on the lower back and border the triangular blackish-brown patch on the neck and upper back. Some of the greater coverts show traces of white spots at the end. Iris brown; bill and feet black. Wing 3·7 inches, tarsus 0·9. (*Reichenow.*)

*Hab.* Ukamba, East Africa.

### 8. Melanobucco leucogaster.

Pogonorhynchus leucogaster, *Bocage, Jorn. Lisb.* pt. xxi. p. 63 (1877); *id. Orn. Angola*, p. 539 (1881).
Melanobucco leucogaster, *Shelley, Ibis*, 1889, p. 476.

*Adult.* Similar to *M. leucocephalus*, but differing in the white abdomen and under wing-coverts, and the back and greater wing-coverts being dusky brown, but unspotted. (*Bocage.*)

*Hab.* Quillengues, in Mossamedes.

### 9. Melanobucco abyssinicus.

Le Guifso Balito, *Buff. Hist. Nat. Ois.* iii. p. 471 (1775).
Three-toed Grosbeak, *Lath. Gen. Syn.* ii. pt. i. p. 159 (1783).
Loxia tridactyla, *Gm. Syst. Nat.* p. 806 (1788); *Lath. Ind. Orn.* i. p. 397 (1790).
Phytotoma tridactyla, *Daud. Traité*, ii. p. 366 (1800).
Phytotoma abyssinica, *Lath. Ind. Orn. Suppl.* i. p. xlix (1801).
Abyssinian Plant-cutter, *Lath. Gen. Syn. Suppl.* ii. p. 213, pl. cxxxiii. (1802).
Bucco saltii, *Stanley in Salt's Voyage to Abyssinia*, App. iv. p. 54 (1814).
Hyreus abyssinicus, *Steph. in Shaw's Gen. Zool.* ix. p. 338, pl. 53 (1815).
Pogonias rubrifrons (*nec Vieill.*), *Swains. Zool. Ill.* ii. pl. 68 (1821); *Des Murs in Lefebvre's Voy. Abyss.* p. 128 (1845).
Pogonias hæmatops, *Wagl. Syst. Av.* Pogonias, sp. 4, p. 165 (1827).
Pogonias brucii, *Rüpp. Neue Wirb., Vög.* p. 50, pl. 20. fig. 1 (1835); *id. P. Z. S.* 1837, p. 50.

Pogonias saltii, *Swains. B. W. Afr.* p. 170 (1837); *Bp. Consp. Av.* i. p. 145 (1850); *Hartl. J. f. O.* 1854, p. 197; *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 170 (1857); *Heugl. J. f. O.* 1862, p. 36; *Brehm, Reis. Habesch*, p. 364 (1863).

Laimodon brucii, *Rüpp. Syst. Uebers.* p. 95 (1845); *Heugl. Syst. Uebers.* p. 46 (1856).

Laimodon saltii, *Gray, Gen. B.* ii. p. 428 (1846); *Verr. P. Z. S.* 1859, p. 396; *Heugl. J. f. O.* 1861, p. 196; *Antin. Cat. descr. Ucc.* p. 81 (1864).

Pogonorhynchus saltii, *Heugl. Ibis*, 1861, p. 123.

Pogonorhynchus abyssinicus, *Goffin, Mus. Pays-Bas*, Buccones, p. 5 (1863); *Gray, List Capit. in Brit. Mus.* p. 3 (1868); *id. Hand-l. B.* ii. p. 173, no. 8423 (1870); *Blanf. Geol. & Zool. Abyss.* p. 309 (1870); *Marshall, Mon. Capit.* p. 17, pl. 9 (1870); *Finsch, Tr. Z. S.* vii. p. 281 (1870); *Sharpe, Cat. Afr. B.* p. 15 (1871); *Antin. & Salvad. Viagg. Bogos*, p. 42 (1873); *Hartl. Abhandl. nat. Verein. Bremen*, vii. p. 112 (1881); *Pelz. Sitz. zool.-bot. Ges. Wien*, xxxi. p. 615 (1881); *Salvad. Ann. Mus. Civ. Gen.* (2) i. p. 83 (1884).

Pogonorhynchus habessinicus, *Heugl. Orn. N.O. Afr.* pp. 755, clix (1871).

Melanobucco abyssinicus, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* Glossy blue-black; wing-coverts like the back, the feathers broadly edged with white; bastard-wing and primary-coverts brown; quills blackish, edged with bright yellow, becoming brighter towards the ends; tail-feathers black, narrowly fringed with yellow; crown of head as far as the occiput, sides of face, cheeks, throat, and fore neck brilliant scarlet; ear-coverts glossy blue-black like the sides of the neck, but with a few scarlet tips; sides of fore neck and breast, as well as the whole of the under surface of body from the chest downwards, glossy blue-black; under wing-coverts and axillaries, as well as the quill-lining, white: "bill blackish; feet dusky; iris red" (*Heuglin*). Total length 6 inches, culmen 0·9, wing 3·45, tail 2·1, tarsus 0·75.

*Adult female.* Similar in plumage to the male. Total length 6 inches, culmen 0·9, wing 3·5, tail 1·9, tarsus 0·85.

*Hab.* North-eastern Africa.

| | | |
|---|---|---|
| *a.* Ad. sk. | Abyssinia. | Tweeddale Coll. |
| *b.* Ad. sk. | Habab (*Esler*). | Sharpe Coll. |
| *c, d.* Ad. sk. | Bogos-Land (*Esler*). | Shelley Coll. |
| *e.* ♀ ad. sk. | Anseba Valley, Aug. 5. | W. T. Blanford, Esq. [C.]. |
| *f, g.* ♂ ♀ ad. sk. | Gabena-Weldt Gonfallon, Aug. (*W. Jesse*). | Tweeddale Coll. |
| *h.* ♀ ad. sk. | Waliko, July 23 (*W. Jesse*). | Sharpe Coll. |
| *i.* ♀ ad. sk. | Ambucarra, Shoa, Aug. 24 (*O. Antinori*). | Shelley Coll. |
| *k.* ♂ ad. sk. | Adoi-Dembi, Shoa, May (*O. Antinori*). | Shelley Coll. |
| *l.* Ad. sk. | Shoa (*Sir W. Harris*). | India Museum. |
| *m.* Ad. sk. | White Nile. | Tweeddale Coll. |

### 10. Melanobucco torquatus.

Le Barbu à plastron noir, *Levaill. Barbus*, p. 65, pl. 28 (1806).
Bucco torquatus, *Dumont, Dict. Sc. Nat.* iv. p. 65, pl. 28 (1806), *ex Levaill.*
Bucco nigrithorax, *Cuv. Règne An.* p. 428 (1817).
Pogonias personatus, *Temm. Pl. Col.* iii. pl. 201 (1823); *Wagl. Syst. Av.* Pogonias, sp. 3 (1827); *Cuv. Règne An.* p. 458 (1829); *Less. Traité*, p. 160 (1831).
Pogonias nigrithorax, *Cuv. Règne An.* p. 458 (1829); *Bp. Consp. Av.* i. p. 145 (1850).
Laimodon nigrithorax, *Gray, Gen. B.* ii. p. 428 (1846); *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Verr. P. Z. S.* 1859, p. 325; *Gurney, Ibis*, 1862, p. 32; *Layard, B. S. Afr.* p. 233 (1867); *id. Ibis*, 1871, p. 226.
Pogonorhynchus torquatus, *Goffin, Mus. Pays-Bas*, Buccones, p. 4 (1863); *Gray, List Capit. Brit. Mus.* p. 2 (1868, pt.); *id. Hand-l. B.* ii. p. 172, no. 8422 (1870); *Marshall, Mon. Capit.* p. 19, pl. 10 (1871); *Buckley, Ibis*, 1874, p. 367; *Shelley, Ibis*, 1875, p. 82; *Barratt, Ibis*, 1876, p. 200; *Ayres, Ibis*, 1879, p. 296; *Bocage, Orn. Angola*, p. 106 (1881); *Holub & von Pelz. Beitr. Orn. Südafr.* p. 161 (1882); *Shelley, Ibis*, 1882, p. 248; *Butler, Feilden, & Reid, Zool.* 1882, p. 208; *Sharpe, ed. Layard's B. S. Afr.* pp. 172, 811 (1884); *Souza, Jorn. Lisb.* 1886, p. 158.
Pogonorhynchus nigrithorax, *Kirk, Ibis*, 1864, p. 328.
Laimodon leucomelas, *Ayres, Ibis*, 1871, p. 261.
Melanobucco torquatus, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* General colour above brown, finely and almost imperceptibly vermiculated with wavy blackish lines, the lesser and median wing-coverts like the back; lower back and upper tail-coverts washed with sulphur-yellow; greater wing-coverts, bastard wing, and primary-coverts uniform brown; quills and tail-feathers dark brown, edged externally with bright yellow, whiter on the primaries; crown of the head, sides of the face, cheeks, throat, and fore neck vermilion; the nape, hind neck, sides of neck, and upper mantle black, as well as a broad collar extending from the sides of the fore neck across the breast; remainder of the under surface of the body pale sulphur-yellow, more or less mottled, especially on the flanks, with dull ashy vermiculations; under wing-coverts and quill-lining white: "bill black; legs slaty brown; iris reddish brown" (*G. E. S.*). Total length 6·5 inches, culmen 1, wing 3·5, tail 2·2, tarsus 0·8.

*Adult female.* Similar in plumage to the male. Total length 6·5 inches, culmen 0·95, wing 3·5, tail 2·05, tarsus 0·9.

*Young.* Much duller in colour than the adult, the entire head being dingy purplish black, as also the throat and chest, with a little scarlet on the throat and more on the sides of the face: the upper surface of the body much washed with yellow; remainder of under surface pale yellow, almost white in some specimens; bill brown.

*Hab.* South Africa.

| | | |
|---|---|---|
| *a.* Juv. sk. | South Africa. | Sharpe Coll. |
| *b, c.* ♂ ♀ ad.; *d.* ♂ juv. sk. | Eland's Post, July (*T. C. Atmore*) | Sharpe Coll. |

| | | |
|---|---|---|
| *e, f.* ♂ ♀ ad. sk. | Eland's Post, May and June (*T. C. Atmore*). | Tweeddale Coll. |
| *g, h.* ♀ ad. sk. | Durban, Natal (*T. L. Ayres*). | Shelley Coll. |
| *i.* ♂ ad. sk. | Pinetown, Natal (*T. L. Ayres*). | Seebohm Coll. |
| *k.* ♂ juv. sk. | Pinetown, May (*T. L. Ayres*). | Shelley Coll. |
| *l–o.* ♀ ad. et juv. sk. | Pinetown, March (*G. E. S.*). | Shelley Coll. |
| *p.* ♂ ad. sk. | Transvaal, July (*T. E. Buckley*). | Shelley Coll. |
| *q.* ♀ ad. sk. | Swazi-Land, June (*T. E. Buckley*). | Shelley Coll. |
| *r.* Ad. sk. | Rustenburg, E. Transvaal. | F. A. Barratt, Esq. [P.]. |
| *s, t.* Ad. sk. | Zambesi River (*Sir J. Kirk*). | Livingstone Expedition. |
| *u.* Ad. sk. | Tete, Zambesi (*Sir J. Kirk*). | Livingstone Expedition. |
| *v.* Ad. sk. | Shupanga, Shiré River (*Sir J. Kirk*). | Livingstone Expedition. |
| *w, x.* ♂ ♀ ad. sk. | Caconda, Benguela, Feb., April (*J. Anchieta*). | Shelley Coll. |
| *y.* ♂ ad. sk. | Quillengues, Jan. (*J. Anchieta*). | Sharpe Coll. |

## 11. Melanobucco irroratus.

Pogonorhynchus torquatus (*nec Dum.*), *Sel. P. Z. S.* 1864, p. 112; *Finsch & Hartl. Vög. Ost-Afr.* p. 503 (1870); *Heugl. Orn. N.O.-Afr.* pp. 756, clix (1871); *Sharpe, P. Z. S.* 1873, p. 711.

Pogonorhynchus irroratus, *Cab. J. f. O.* 1878, pp. 205, 239; *Fischer & Reichen. t. c.* p. 253; *Fischer, J. f. O.* 1879, pp. 283, 291; *Gurney, Ibis*, 1881, p. 128; *Shelley, P. Z. S.* 1881, p. 593; *Fischer, Zeitschr. ges. Orn.* i. p. 370 (1884); *id. J. f. O.* 1885, p. 125.

Melanobucco irroratus, *Shelley, Ibis*, 1889, p. 476.

*Adult.* Similar to *M. torquatus*, but smaller and much more coarsely vermiculated above, these vermiculations extending over the greater coverts and inner secondaries. The black is not so extended over the mantle as in *M. torquatus*. The breast and abdomen are also pale yellow, with only some greyish mottling on the flanks: "bill black; feet greyish black; iris reddish yellow-brown" (*G. A. Fischer*). Total length 6·5 inches, culmen 0·9, wing 3·45, tail 2·1, tarsus 0·85.

*Hab.* Eastern Africa.

| | | |
|---|---|---|
| *a–c.* Ad. sk. | Mombasa (*Rev. J. Wakefield*). | Sharpe Coll. |
| *d.* ♂ ad. sk. | Mombasa. | Dr. J. Hildebrandt [C.]. |
| *e.* ♂ ad. sk. | Mombasa. | Rev. A. F. Buxton [P.]. |
| *f.* Ad. sk. | Lamu (*Sir J. Kirk*). | Shelley Coll. |
| *g.* Ad. sk. | Melinda (*Sir J. Kirk*). | Shelley Coll. |
| *h.* Ad. sk. | Usambara Mountains (*Sir J. Kirk*). | Shelley Coll. |
| *i.* Ad. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *k.* Ad. sk. | Dar-es-Salaam (*Sir J. Kirk*). | Shelley Coll. |
| *l.* Ad. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. |

### 12. Melanobucco vieilloti.

Le Barbu Rubicon, *Levaill. Barbus*, iii. Suppl. p. 43, fig. D (1807).
Pogonias vieilloti, *Leach, Zool. Misc.* ii. pl. 97 (1815); *Steph. in Shaw's Gen. Zool.* ix. p. 3 (1815); *Hartl. Contr. Orn.* 1850, p. 131; *Bp. Consp. Av.* i. p. 145 (1850); *Hartl. Orn. W.-Afr.* p. 170 (1857).
Bucco fuscescens, *Vieill. N. Dict. d'Hist. Nat.* iii. p. 241 (1816); *id. Enc. Méth.* ii. p. 1421 (1823).
Pogonias rubescens, *Temm. Pl. Col.* iii. Pogonias, sp. 5 (1823); *Wagl. Syst. Av.*, Pogonias, 5 (1827).
Pogonias senegalensis, *Licht. Verz. Doubl.* p. 9 (1823); *Swains. B. W. Afr.* ii. p. 168 (1837).
Pogonias rubicon, *Cuv. Règne Anim.* p. 457 (1829).
Bucco personatus, *Less. Traité*, p. 160 (1831).
Laimodon vieilloti, *Rüpp. Syst. Uebers.* p. 95 (1845); *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Heugl. Syst. Uebers.* p. 46 (1856); *Verr. P. Z. S.* 1859, p. 396; *Antin. Cat. descr. Ucc.* p. 81 (1864).
Pogonorhynchus vieilloti, *Strickl. P. Z. S.* 1850, p. 219; *Heugl. Ibis*, 1861, p. 123; *id. J. f. O.* 1862, p. 36; *Goffin, Mus. Pays-Bas*, Buccones, p. 6 (1863); *Gray, List Capit. Brit. Mus.* p. 4 (1868); *Sharpe, Ibis*, 1869, p. 193; *Gray, Hand-l. B.* ii. p. 173, no. 8427 (1870); *Marshall, Monogr. Capit.* p. 21, pl. 11 (1870); *Antin. & Salvad. Viagg. Bogos*, p. 42 (1873); *Ussher, Ibis*, 1874, p. 54; *Shelley, Ibis*, 1883, p. 559.
Melanobucco vieilloti, *Shelley, Ibis*, 1889, p. 476.

*Adult.* General colour above dark brown, the feathers longitudinally tipped with sulphur-yellow, before which is a subterminal black shade; rump entirely sulphur-yellow; scapulars and wing-coverts brown, with whitish shaft-lines; the median series edged with white, the greater coverts with pale brown: quills blackish brown, edged with sulphur-yellow; upper tail-coverts and tail-feathers dark brown, edged with yellow; forehead scarlet; the hind neck and sides of the neck blackish, with yellowish-white tips and spots; lores white; sides of the face, ear-coverts, and cheeks scarlet; throat white, with scarlet ends to the feathers, some of those on the sides of the breast edged with black, producing a mottled appearance; remainder of under surface of body pale sulphur-yellow, the centre of the body scarlet; the flanks dusky blackish, with yellow tips to the feathers; under wing-coverts, axillaries, and quill-lining white. Total length 6 inches, culmen 0·85, wing 3·2, tail 1·75, tarsus 0·8.

*Young.* Much more dingily coloured than the adult, and with less scarlet on the head and throat, these parts being dusky brown, with a few scarlet tips to the feathers.

*Hab.* West Africa, from Senegambia to the Niger, and across the continent to Eastern Africa.

| | | |
|---|---|---|
| *a.* Ad. sk. | Senegal (*d'Einville*). | Riocour Coll. (Type of *B. fuscescens.*) |
| *b, c.* Ad. sk. | Senegal. | Sharpe Coll. |
| *d.* Juv. sk. | Dakar, Senegal. | L. Laglaize [C.]. |
| *e, f.* Ad. sk. | Bathurst, River Gambia (*Sir A. Moloney*). | Shelley Coll. |

| | | |
|---|---|---|
| *g.* Juv. sk. | Rufisque, Senegal (*L. Laglaize*). | Tweeddale Coll. |
| *h.* Ad. sk. | St. Louis, Senegal (*L. Laglaize*). | Tweeddale Coll. |
| *i.* Ad. sk. | Connor's Hill, Fantee, Nov. 25 (*H. T. Ussher*). | Sharpe Coll. |
| *k, l.* Ad. sk. | Yancoomassie (*H. T. Blissett*). | Sharpe Coll. |
| *m.* Ad. sk. | River Prah (*H. T. Blissett*). | Shelley Coll. |
| *n.* ♂ ad. sk. | Shonga, River Niger (*W. A. F.*). | Forbes Coll. |
| *o.* Ad. sk. | Abyssinia. | Sharpe Coll. |

### 13. Melanobucco undatus.

Pogonias undatus, *Rüpp. Neue Wirb., Vög.* p. 52, pl. 20. fig. 2 (1835); *Bp. Consp. Av.* i. p. 146 (1850).

Bucco undatus, *Des Murs in Lefebvre's Voy. Abyss.* p. 130 (1845).

Bucco undulatus, *Des Murs in Lefebvre's Voy. Abyss., Atlas*, pl. 10. fig. 2 (1845).

Laimodon undatus, *Rüpp. Syst. Uebers.* p. 95 (1845); *Gray, Gen. B.* ii. p. 422 (1846); *Heugl. Syst. Uebers.* p. 46 (1856).

Pogonorhynchus undatus, *Heugl. Ibis*, 1861, p. 123; *Goffin, Mus. Pays-Bas*, Buccones, p. 8 (1863); *Gray, List Capit. in Brit. Mus.* p. 3 (1869); *id. Hand-l. B.* ii. p. 173, no. 8424 (1870); *Blanf. Geol. & Zool. Abyss.* p. 310 (1870); *Finsch, Tr. Z. S.* vii. p. 283 (1870); *Heugl. Orn. N.O.-Afr.* pp. 757, clix (1871); *Marshall, Mon. Capit.* p. 27, pl. 13 (1871); *Antin. & Salvad. Viagg. Bogos*, p. 42 (1873); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 84 (1884).

Pogonorhynchus squamatus, "*Heugl.*" (ubi?), *Gray, Hand-l. B.* ii. p. 173, no. 8430 (1870).

Melanobucco undatus, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* General colour above dusky, the mantle washed with glossy blue-black and barred with white; the rump and upper tail-coverts barred and tipped with sulphur-yellow; wing-coverts brown, edged with yellowish white; quills and tail-feathers brown, margined with sulphur-yellow; forehead dark crimson; hinder crown and nape glossy blue-black; above the ear-coverts a broad streak of white; sides of face, ear-coverts, cheeks, throat, and chest glossy blue-black; sides of fore neck, chest, and under surface of body ashy white, washed with pale yellow on the abdomen and under tail-coverts, and barred across with dusky blackish; under wing-coverts yellowish white; quills ashy below, yellowish along the inner web: "bill black; feet lead-colour; iris white" (*O. Antinori*). Total length 5·8 inches, culmen 0·75, wing 3·2, tail 1·9, tarsus 0·8.

*Adult female.* Similar to the male in colour. Total length 6·2 inches, culmen 0·8, wing 3·1, tail 1·9, tarsus 0·7.

*Hab.* North-eastern Africa.

| | | |
|---|---|---|
| *a.* Ad. sk. | Abyssinia. | Baron Laugier. |
| *b, c.* ♂ ♀ ad. sk. | Adigrat, Tigré, April 14. | W. T. Blanford, Esq. [C.]. |
| *d.* ♂ ad. sk. | Rayrayguddy, May (*W. Jesse*). | Tweeddale Coll. |
| *e.* ♂ ad. sk. | Senafé, April 14 (*W. Jesse*). | Tweeddale Coll. |
| *f.* ♂ ad. sk. | Kokai, Aug. 9 (*W. Jesse*). | Sharpe Coll. |
| *g.* ♂ ad. sk. | Shoa, June 22 (*O. Antinori*). | Shelley Coll. |

## 4. TRICHOLÆMA.

Type.

Tricholæma, *J. & E. Verr. J. f. O.* 1855, p. 132 ..... T. hirsutum.

*Range.* Confined to Africa.

*Key to the Species.*

*a*. No red on the forehead, which is black or brown like the crown.
  *a'*. Larger; abdomen yellow, spotted with black ..... *hirsutum*, p. 28.
  *b'*. Smaller; abdomen never yellow or with black spots.
    *a''*. Eyebrow white.
      *a'''*. Forehead brown, like the crown .... *stigmatothorax*, p. 29.
      *b'''*. Forehead black, like the crown.
        $a^4$. Mantle spotted with yellow; no black spots on the flanks ..... *melanocephalum*, p. 30.
        $b^4$. Mantle black; large ovate spots of black on the flanks ..... *lachrymosum*, p. 31.
    *b''*. Fore part of eyebrow yellow..... *affine*, p. 31.
*b*. Forehead red.
  *c'*. Throat black ..... *leucomelan*, p. 31.
  *d'*. Throat white.
    *c''*. No black spots on breast ..... *diadematum*, p. 33.
    *d''*. Breast spotted with black.
      *c'''*. Edges of quills and tail-feathers straw-yellow * ..... *frontatum*, p. 34.
      *d'''*. Edges of quills and tail-feathers sulphur-yellow *..... *masaicum*, p. 34.

### 1. Tricholæma hirsutum.

Pogonias hirsutus, *Swains. Zool. Illustr.* ii. pl. 72 (1821–22); *id. B. W. Afr.* ii. p. 172 (1837); *Bp. Consp.* i. p. 145 (1850); *Hartl. Orn. W.-Afr.* p. 172 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 140; *Hartl. J. f. O.* 1861, p. 262; *Sharpe, Ibis*, 1869, p. 386.

Laimodon hirsutus, *Gray, Gen. B.* ii. p. 429 (1846).

Tricholæma flavipunctata, *J. & E. Verr. J. f. O.* 1855, p. 102; *id. Rev. et Mag. Zool.* 1855, p. 555, pl. 14; *Reichen. J. f. O.* 1877, p. 17.

Pogonorhynchus hirsutus, *Goffin, Mus. Pays-Bas*, Buccones, p. 11 (1863); *Gray, List Capit. Brit. Mus.* p. 5 (1868); *id. Hand-l. B.* ii. p. 173, no. 8431 (1870); *Reichen. J. f. O.* 1875, p. 48; *Büttik. Notes Leyden Mus.* vii. p. 215 (1885), viii. p. 263 (1886), x. p. 94 (1888).

Tricholæma hirsutum, *Sharpe, Cat. Afr. B.* p. 15 (1871); *id. P. Z. S.* 1871, p. 605; *Marshall, Monogr. Capit.* p. 5, pl. 3 (1871); *Shelley & Buckley, Ibis*, 1872, p. 287; *Ussher, Ibis*, 1874, p. 74; *Sharpe & Bouvier, Bull. Soc. Zool. France*, iii. p. 78 (1878); *Bocage, Orn. Angola*, p. 539 (1881); *Shelley, Ibis*, 1889, p. 476.

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* These characters are taken from Reichenow's notes (*l. c.*), as I have not seen these two species.

*Adult.* General colour above glossy black, spotted with sulphur-yellow; the feathers of the rump and upper tail-coverts edged with yellow; lesser and median wing-coverts like the back and similarly spotted with yellow; the greater coverts, quills, and tail-feathers black, edged with sulphur-yellow; crown of head, lores, ear-coverts, sides of neck, and throat black; a broad white eyebrow from above the eye to above the ear-coverts; a second very broad band of white along the cheeks; remainder of under surface of body dull sulphur-yellow; the fore neck and chest longitudinally streaked with hair-like lines of black; the breast, abdomen, sides of body, flanks, thighs, and under tail-coverts spotted with black, the spots being rounded or ovate and rather larger on the flanks and under tail-coverts; under wing-coverts white, spotted with black; quills dusky below, ashy white along the inner web: "bill black; feet blackish grey; iris carmine" (*J. Büttikofer*). Total length 7·4 inches, culmen 1·05, wing 3·5, tail 1·8, tarsus 0·85.

? *Young* or *Adult female.* Differs from the adult above described in having the head spotted with yellow, the whole of the spots and the yellow on the under surface being brighter and more golden yellow; the throat mottled with spots of hoary whitish or pale yellow. Total length 6·2 inches, culmen 1, wing 3·5, tail 1·9, tarsus 0·85.

*Hab.* West Africa, from Sierra Leone to the Congo.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *c*, *d*. Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *e*. Ad. sk. | Coomassie, Ashantee. | Godfrey Lagden, Esq. [P.]. |
| *f*. Ad. sk. | Abouri, Aguapim, Feb. 22 (*T. E. Buckley*). | Shelley Coll. |
| *g*, *h*. Juv. sk. | Camaroons (*A. Crossley*). | Sharpe Coll. |
| *i*. Juv. sk. | Gaboon (*DuChaillu*). | Tweeddale Coll. |
| *k*. Ad. sk. | Gaboon. | Purchased. |

### 2. Tricholæma stigmatothorax. (Plate II. fig. 1.)

Tricholæma stigmatothorax, *Cab. J. f. O.* 1878, pp. 205, 240; *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 125; *Shelley, Ibis*, 1885, p. 394.
Pogonorhynchus stigmatothorax, *Shelley, P. Z. S.* 1889, p. 357.
Tricholæma stigmatothorax, *Shelley, Ibis*, 1889, p. 476.

*Adult female.* Similar to *T. melanocephalum*, but brown instead of black, the band along the sides of the head and the throat distinctly brown, as also the crown of the head: "bill black; feet lead-colour; iris brown" (*G. A. Fischer*). Total length 4·4 inches, culmen 0·65, wing 2·5, tail 1·4, tarsus 0·7.

*Adult male.* Differs only in plumage from the female in having the feathers of the throat indistinctly tipped with white.

*Hab.* Eastern Africa.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | N'di, Teita, Feb. | Dr. Hilbebrandt [C.]. |
| *b*. ♀ ad. sk. | Ronga, March 26 (*Dr. G. A. Fischer*). | Shelley Coll. |
| *c*. ♂ ad. sk. | Kilimanjaro, July 3. | H. C. V. Hunter, Esq. [P.]. |

### 3. Tricholæma melanocephalum.

Pogonias melanocephalus, *Cretzschm. in Rüpp. Atlas*, p. 41, pl. 28. fig. *a* (1827); *Sclat. Contr. Orn.* 1852, p. 126.
Pogonias bifrenatus, *Hempr. & Ehr. Symb. Phys.* t. 8. fig. 2 (1828); *Temm. Pl. Col.* iii. Pogonias, sp. 8 (1823); *Bp. Consp. Av.* i. p. 145 (1850); *Hartl. J. f. O.* 1854, p. 197; *id. Orn. W.-Afr.* p. 171 (1857); *Heugl. J. f. O.* 1862, p. 36.
Laimodon melanocephalus, *Rüpp. Syst. Uebers.* p. 95 (1845); *Heugl. Ibis*, 1859, p. 343; *id. J. f. O.* 1861, p. 196.
Laimodon bifrenatus, *Gray, Gen. B.* ii. p. 429 (1845); *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Verreaux, P. Z. S.* 1859, p. 396.
Pogonorhynchus bifrenatus, *Heugl. Ibis*, 1861, p. 123.
Pogonorhynchus melanocephalus, *Goffin, Mus. Pays-Bas*, Buccones, p. 10 (1863); *Gray, List Capit. Brit. Mus.* p. 4 (1868); *id. Hand-l. B.* ii. p. 173, no. 8426 (1870); *Blanf. Geol. & Zool. Abyss.* p. 310 (1870); *Finsch, Trans. Z. S.* vii. p. 282 (1870); *Marshall, Monogr. Capit.* p. 31, pl. 15 (1870); *Heugl. Orn. N.O.-Afr.* pp. 758, clix (1871); *Antin. & Salvad. Viagg. Bogos*, p. 43 (1873); *Bocage, Orn. Angola*, p. 107 (1881); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 86 (1884).
Tricholæma melanocephalum, *Shelley, Ibis*, 1889, p. 476.

*Adult.* General colour above glossy blue-black, the head and hind neck uniform, with no crimson on the forehead; the back ornamented with yellow tips to the feathers, the rump entirely yellow; scapulars black, externally edged with white; lesser wing-coverts uniform brown; median and greater coverts, quills, and tail-feathers blackish, edged with bright yellow, inclining to white at the ends of the feathers; lores, feathers below the eye, and ear-coverts blue-black, extending in a band along the sides of the neck; a broad white streak from above the eye to the sides of the hinder neck; another broad band of white along the cheeks; throat black, narrowing on the fore neck; sides of the fore neck and chest and remainder of under surface of body white, with a slight tinge of yellow along the middle of the abdomen; sides of the body, thighs, and under tail-coverts slightly mottled with blackish bases to the feathers; under wing-coverts and quill-lining white: "bill black; feet dusky lead-colour; iris umber-brown" (*Heuglin*). Total length 5·3 inches, culmen 0·65, wing 2·6, tail 1·4, tarsus 0·75.

*Hab.* North-eastern Africa, ranging across to Senegambia.

| | | |
|---|---|---|
| *a*. Ad. sk. | Abyssinia. | Dr. Rüppell [C.]. |
| *b*. ♀ ad. sk. | Abyssinia (*Esler*). | Sharpe Coll. |
| *c*. ♂ ad. sk. | Rairo, Bogos-Land (*W. Jesse*). | Tweeddale Coll. |
| *d*. Ad. sk. | Ailat, Bogos-Land, June 6. | W. T. Blanford, Esq. [C.]. |
| *e*, *f*. Ad. sk. | Demben, Bogos-Land (*Esler*). | Sharpe Coll. |
| *g*, *h*. Ad. sk. | Demben (*Esler*). | Shelley Coll. |

### 4. Tricholæma lachrymosum.

Tricholæma lachrymosa, *Cab. J. f. O.* 1878, pp. 205, 240; *Böhm, J. f. O.* 1883, p. 167; *Schalow, t. c.* p. 346; *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 125; *Reichen. J. f. O.* 1887, p. 59.
Pogonorhynchus lachrymosus, *Shelley, P. Z. S.* 1888, p. 42.
Tricholæma lachrymosum, *Shelley, Ibis,* 1889, p. 476.

*Adult male.* Similar to *T. melanocephalum* and equally black, but distinctly and numerously spotted with black underneath, the spots being terminal and ovate in shape: "bill and feet black; iris brown" (*G. A. Fischer*): "iris clear grey" (*R. Böhm*). Total length 4·8 inches, culmen 0·65, wing 2·7, tail 1·5, tarsus 0·7.

*Adult female.* Similar to the male in colour. Total length 5·5 inches, culmen 0·65, wing 2·6, tail 1·8, tarsus 0·6.

*Hab.* From the Zanzibar district of Eastern Africa to Equatorial Africa.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Kitui, Ukamba, June. | Dr. Hildebrandt [C.]. |
| *b.* ♂ ad. sk. | Simbaveni, Aug. 11 (*Dr. R. Böhm*). | Shelley Coll. |
| *c*, *d.* ♂; *e.* ♀ ad. sk. | Wadelai, July. | Emin Pasha [P.]. |

### 5. Tricholæma affine. (Plate II. fig. 2.)

Pogonorhynchus affinis, *Shelley, P. Z. S.* 1879, p. 680; *Sharpe, ed. Layard's B. S. Afr.* p. 811 (1884).
Tricholæma affine, *Shelley, Ibis,* 1887, p. 476.

*Adult female* (type of species). Similar to *T. melanocephalum*, and with no crimson on the forehead, but larger, with the yellow spots on the back smaller, and having the sides of the body longitudinally spotted with black. Total length 5·8 inches, culmen 0·65, wing 3·15, tail 1·8, tarsus 0·75.

*Hab.* South-eastern Africa.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Weenen, Natal, March 15 (*W. Arnold*). | Shelley Coll. (Type of species.) |
| *b.* ♂ ad. sk. | Hopetown (*T. C. Atmore*). | Sharpe Coll. |

### 6. Tricholæma leucomelan.

Le Barbu de l'isle de Luçon, *Sonnerat, Voy. Nouv. Guin.* p. 68, pl. 34 (1776).
Le Barbu à gorge noire, *Buff. Hist. Nat. Ois.* vii. p. 103 (1780, *ex Sonn.*); *Levaill. Barbus,* ii. pp. 66, 68, 71, pls. 29, 30, 31 (1806).
Le Barbu à plastron noir, *Buff. Hist. Nat. Ois.* vii. p. 104 (1780).
Le Barbu du Cap de Bonne Espérance, *Daubent. Pl. Enl.* vii. pl. 688. fig. 3.
Black-throated Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 501 (1782).
Bucco leucomelas, *Bodd. Tabl. Pl. Enl.* p. 43 (1783).
Trogon luzonensis, *Scop. Del. Fl. et Faun. Insubr.* ii. p. 89 (1786).
Bucco niger, *Gm. Syst. Nat.* i. p. 407 (1788); *Stephens in Shaw's Gen. Zool.* ix. p. 30 (1815); *Vieill. N. Dict. d'Hist. Nat.* iii. p. 242 (1816).

Bucco rufifrons, *Stephens, op. cit.* ix. p. 31 (1815).
Pogonias stephensii, *Leach, Zool. Misc.* ii. p. 145, pl. 116 (1815).
Pogonias niger, *Temm. Pl. Col.* iii. Pogonias, sp. 6 (1823); *Wagl. Syst. Av.* Pogonias, sp. 6 (1827); *Bp. Consp. Av.* i. p. 145 (1850).
Pogonias unidentatus, *Licht. Verz. Vög. Kaffernl.* p. 17 (1842).
Laimodon leucomelas, *Gray, Gen. B.* ii. p. 429 (1846); *Layard, B. S. Afr.* p. 232 (1867).
Laimodon unidentatus, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Verr. P. Z. S.* 1859, p. 395; *Layard, B. S. Afr.* p. 233 (1867).
Pogonias leucomelas, *Strickl. & Scl. Contr. Orn.* 1852, p. 155; *Mont. P. Z. S.* 1865, p. 95.
Læmodon niger, *Grill, Zool. Anteckn.* pp. 11, 44 (1859).
Pogonorhynchus leucomelas, *Goffin, Mus. Pays-Bas*, Buccones, p. 7 (1863); *Gray, List Capit. Brit. Mus.* p. 3 (1868); *id. Hand-l. B.* ii. p. 173, no. 8425 (1870); *Marshall, Monogr. Capit.* p. 23, pl. 12 (1870); *Sharpe, Cat. Afr. B.* p. 15 (1871); *Gurney in Anderss. B. Dam.-Ld.* p. 217 (1872); *Buckley, Ibis*, 1874, p. 367; *Barratt, Ibis*, 1876, p. 200; *Ayres, Ibis*, 1877, p. 342, 1879, p. 296; *Bocage, Orn. Angola*, p. 107 (1881); *Sharpe in Oates' Matabele-Land*, App. B, p. 305 (1881); *id. ed. Layard's B. S. Afr.* pp. 173, 811 (1884); *Souza, Jorn. Lisb.* 1886, p. 158.
Pogonorhynchus niger, *Holub & von Pelz. Beitr. Orn. Südafr.* p. 161 (1882).
Tricholæma leucomelan, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* General colour above glossy blue-black, the feathers longitudinally tipped with bright yellow; rump-feathers very long and entirely yellow; upper tail-coverts blue-black, tipped with yellow; scapulars blue-black, externally white; lesser wing-coverts black, spotted with white; median series black, with longitudinal tips of bright yellow; greater series margined near the ends of the outer web with yellow or white, the innermost tipped and edged with white along the inner web also; quills and tail-feathers black, broadly edged with sulphur-yellow, becoming white towards the ends; crown of head uniform blue-black, with a broad frontal band of crimson; the base of the forehead, cheeks, lores, eyelids, and ear-coverts black, extending to the sides of the neck; a broad eyebrow of pale sulphur-yellow, passing into white along the sides of the hinder neck; feathers below the eye and cheek, sides of the neck and under surface of body white; throat and fore neck glossy blue-black; sides of the body, thighs, and under tail-coverts slightly mottled with blackish bases to the feathers; under wing-coverts and quill-lining white; "bill dark brownish horn-colour; feet and toes slaty brown; iris umber-brown" (*Andersson*). Total length 6 inches, culmen 0·8, wing 3·3, tail 2·05, tarsus 0·8.

*Adult female.* Similar in plumage to the male. Total length 5·7 inches, culmen 0·7, wing 3, tail 1·8, tarsus 0·85.

*Young.* Much duller in colour than the adult, and differs also in having longitudinal black spots on the sides of the body.

*Hab.* Southern Africa, to the Matabele Country on the east and to Benguela on the west.

| | | |
|---|---|---|
| *a–c.* Ad. et juv. sk. | South Africa. | Sir A. Smith [C.]. |
| *d, e.* Juv. sk. | Cape Colony (*Verreaux*). | Sharpe Coll. |
| *f.* ♂ ad. sk. | Hopetown (*T. C. Atmore*). | Shelley Coll. |
| *g.* ♀ ad. sk. | Swazi-Land, July 22 (*T. E. Buckley*). | Shelley Coll. |
| *h.* ♂ ad. sk. | Transvaal (*T. Ayres*). | Sharpe Coll. |
| *i, k.* ♀ ad. sk. | Transvaal, July 10 (*T. E. Buckley*). | Shelley Coll. |
| *l.* ♀ ad. sk. | Pretoria, June 24 (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *m.* ♂ juv. sk. | Marico. | F. A. Barratt, Esq. [P.]. |
| *n.* ♂ ad. sk. | Tati, Matabele-Land, Sept. 3 (*T. E. Buckley*). | Shelley Coll. |
| *o.* Ad. sk. | Tati, Oct. 6 (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *p.* Ad. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *q, r.* ♂ ♀ ad. sk. | Otjimbinque, Damara-Land, June, July (*C. J. Andersson*). | Sharpe Coll. |
| *s.* Ad. sk. | Otjimbinque, Aug. 4 (*C. J. Andersson*). | Shelley Coll. |
| *t.* Ad. sk. | Ondonga, Jan. 25 (*C. J. Andersson*). | Sharpe Coll. |
| *u.* Ad. sk. | Benguela (*J. J. Monteiro*). | Sharpe Coll. |
| *v.* Ad. sk. | Benguela. | Monteiro Coll. |

### 7. Tricholæma diadematum.

Læmodon diadematus, *Heugl. Syst. Uebers.* p. 47 (1856).
Pogonorhynchus diadematus, *Heugl. Ibis*, 1861, pp. 124, 126, pl. v. fig. 3; *Goffin, Mus. Pays-Bas*, Buccones, p. 9, note (1863); *Gray, List Capit. Brit. Mus.* p. 4 (1868); *id. Hand-l. B.* ii. p. 173, no. 8429 (1870); *Salvad. Atti R. Accad. Torino*, 1870, p. 744; *Heugl. Orn. N.O.-Afr.* pp. 759, clix, pl. 27. fig. 3 (1871); *Marshall, Monogr. Capit.* p. 29, pl. 14 (1871); *Pelz. Sitz. zool.-bot. Ges. Wien*, xxxi. p. 615 (1881), xxxii. p. 510 (1882); *Shelley, P. Z. S.* 1888, p. 41.
Pogonias diadematus, *Hartl. Abhandl. nat. Verein. Bremen*, vii. p. 112 (1881).
Tricholæma diadematum, *Shelley, Ibis*, 1889, p. 476.

*Adult male.* Similar to *T. leucomelan*, but distinguished by the absence of the black throat, the whole of the under surface of the body being white, with an ochreous tinge: "bill and feet dusky lead-colour; iris chestnut" (*Heuglin*). Total length 6 inches, culmen 0·7, wing 3, tail 1·7, tarsus 0·7.

*Hab.* Equatorial Africa.

| | | |
|---|---|---|
| *a, b.* ♂ ad. sk. | Lado, Equatorial Africa, June 25 (*Emin Pasha*). | Shelley Coll. |
| *c.* ♂ ad. sk. | Lado, March 3. | Emin Pasha [P.]. |

### 8. Tricholæma frontatum.

Pogonorhynchus frontatus, *Cab. J. f. O.* 1880, p. 351, Taf. ii. fig. 1; *Bocage, Orn. Angola*, p. 539 (1881).
Tricholæma frontatum, *Shelley, Ibis*, 1889, p. 476.

Similar to *T. diadematum*, but distinguished by the black spots on the under surface (*Cabanis*).
*Hab.* Angola.

### 9. Tricholæma masaicum.

Pogonorhynchus frontalis (*nec Cab.*), *Fischer, Zeitschr. ges. Orn.* i. p. 370 (1884).
Pogonorhynchus massaicus, *Reichen. J. f. O.* 1887, p. 59.

*Adult male.* Similar to *T. frontatum*, but with the lanceolate-shaped streaks on the back and wing-coverts as well as the edges of the wings and tail-feathers sulphur-yellow instead of straw-yellow; under surface washed with isabelline; the black spots on the under surface smaller and not rounded, but longitudinal; breast-feathers with yellow spots. Total length 5·3 inches, wing 3·1, tarsus 0·85.
*Hab.* Masai-Land.

## 5. GYMNOBUCCO.

| | Type. |
|---|---|
| Gymnobucco, *Bp. Consp.* i. p. 141 (1850) ..... | G. calvus. |
| Gymnocranus, *Heine, J. f. O.* 1860, p. 191..... | G. calvus. |

*Range.* Confined to Africa.

### 1. Gymnobucco calvus.

Bucco calvus, *Lafr. Rev. Zool.* 1841, p. 241.
Megalaima calva, *Gray, Gen. B.* ii. p. 429 (1846); *id. List Capit. Brit. Mus.* p. 16 (1868); *Goffin, Mus. Pays-Bas*, Buccones, p. 49 (1863); *Gray, Hand-l. B.* ii. p. 176, no. 8476 (1870).
Gymnobucco calvus, *Bp. Consp.* i. p. 141 (1850); *Hartl. J. f. O.* 1854, p. 195; *id. Orn. W.-Afr.* p. 174 (1857); *Cass. Proc. Acad. Philad.* 1859, p. 140; *Hartl. J. f. O.* 1861, p. 262; *Marshall, Monogr. Capit.* p. 136, pl. 54 (1871); *Sharpe, Cat. Afr. B.* p. 16 (1871); *id. P. Z. S.* 1871, p. 606; *Shelley & Buckley, Ibis*, 1872, p. 287; *Ussher, Ibis*, 1874, p. 55; *Reichen. J. f. O.* 1875, p. 8; *Bocage, Orn. Angola*, p. 540 (1881); *Büttik. Notes Leyden Mus.* vii. p. 217 (1885), viii. p. 263 (1886), x. p. 95 (1888).
Gymnobucco peli, *Hartl. Orn. W.-Afr.* p. 175 (1857); *id. J. f. O.* 1861, p. 263; *Sharpe, Ibis*, 1869, p. 193; *Reichen. J. f. O.* 1877, p. 17.
Gymnocranus calvus, *Heine, J. f. O.* 1860, p. 191; *Reichen. J. f. O.* 1877, p. 17.
Gymnocranus peli, *Heine, J. f. O.* 1860, p. 191.

*Adult male.* General colour above and below brown, with more

or less distinct shaft-stripes of paler brown on the back and breast; quills and tail-feathers dark brown, with lighter brown edges; head bare, blue in life, with a few hoary hairs on the crown; the throat-feathers brown like the under surface, with a tuft of straw-coloured bristles on the chin: "bill yellowish brown; feet blackish grey; iris dark" (*A. Reichenow*). Total length 6·8 inches, culmen 0·85, wing 3·35, tail 1·9, tarsus 0·85.

*Adult female.* Similar to the supposed male above described, but having a smaller tuft of bristles on the chin, and a frontal tuft of the same yellowish-brown bristles at the base of each nostril; the plumage both above and below is washed with olive. Total length 5·9 inches, culmen 0 75, wing 3·25, tail 1·65, tarsus 0·75.

*Young.* Distinguished by its dingy reddish brown, almost black, bill, the base of the lower mandible alone being reddish horn-colour. The head is nearly covered with brown feathers like the back.

It is curious that, since Messrs. C. & G. Marshall wrote their 'Monograph' and came to the conclusion that *G. calvus* and *G. peli* were sexes of the same species, the question has not yet been satisfactorily settled. Mr. R. B. Sharpe in 1871 suggested that the two species might after all be distinct, and he pointed out that the bill in so-called *G. calvus* was always larger than that of *G. peli*, but the controversy has never been advanced since that date, though a large series has been gathered together in the British Museum. I cannot believe, however, that two distinct species can always occur side by side in every part of Africa inhabited by *G. calvus*, and I therefore believe *G. peli* to be one of the sexes, though whether it be the adult male, as I presume it to be, or the female, I cannot yet determine. The young bird shows no sign of frontal tufts, and if, therefore, after the rule of most birds, the young resembles the old female, which also lacks the frontal tufts, then *G. calvus* will be the old female, and *G. peli*, with its well-developed frontal tufts, will be the old male, notwithstanding its smaller bill. Two males and a female from the Congo bear out this theory, but a fourth bird is marked female and yet has frontal tufts. There may, however, have been some mistake in sexing this specimen.

*Hab.* West Africa, from Liberia to the Congo.

| | | |
|---|---|---|
| *a.* Ad. sk. | Fantee. | Tweeddale Coll. |
| *b, c, d.* Ad. et juv. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *e–k.* Ad.; *l, m, n.* Juv. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *o, p.* Ad. sk. | Enimill, Wasa Province (*H. F. Blissett*). | |
| *q, r, s.* Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *t.* Ad. sk. | Abouri, Aguapim, Feb. 21 (*T. E. Buckley*). | Shelley Coll. |
| *u.* Ad. sk. | Camaroons, Feb. 4 (*A. Crossley*). | Sharpe Coll. |
| *v, w.* ♂ ad.; *x, y.* ♀ ad. sk. | Landana, Congo. | L. Petit [C.]. |

## 6. HELIOBUCCO.

Type.
Gymnobucco, *auct.* (*nec Bp.*)..... H. bonapartii.
Heliobucco, *Shelley, Ibis*, 1889, p. 476.

*Range.* Confined to West Africa.

### 1. Heliobucco bonapartii.

Gymnobucco bonapartii, *Hartl. J. f. O.* 1854, p. 410; *Verr. J. f. O.* 1855, p. 102; *Hartl. Orn. W.-Afr.* p. 175 (1857); *Marsh. Monogr. Capit.* p. 137, pl. 55 (1871); *Oustalet, Nouv. Arch. Mus.* (2), *Bull.* p. 64 (1879); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 432 (1884).
Barbatula fuliginosa, *Cass. Proc. Acad. Philad.* 1855, p. 324.
Gymnobucco fuliginosa, *Cass. Proc. Acad. Philad.* 1859, p. 140; *Oustalet, N. Arch. Mus.* (2) ii. p. 67 (1879).
Gymnocranus bonapartii, *Heine, J. f. O.* 1860, p. 191.
Gymnocranus fuliginosus, *Heine, J. f. O.* 1860, p. 191.
Megalaima bonapartii, *Goffin, Mus. Pays-Bas*, Buccones, p. 51, note (1863); *Gray, List Capit. Brit. Mus.* p. 16 (1868); *id. Hand-l. B.* ii. p. 176, no. 8478 (1870).
Heliobucco bonapartii, *Shelley, Ibis*, 1889, p. 476.

*Adult.* Brown, with the head always feathered, and the back and breast always distinctly streaked with mesial stripes of yellowish white; the head washed with olive-yellow and the throat ashy grey; "bill horn-black, clearer on the sides; feet dark brown" (*A. Reichenow*). Total length 5·5 inches, culmen 0·7, wing 3·1, tail 1·65, tarsus 0·75.

*Young.* Like the adult, but with the bill yellow at the base of both mandibles; the streaks on the upper and under surface obsolete, both washed with olive.

*Hab.* West Africa, from the Camaroons to the Congo, and across the continent to the Niam-Niam Country.

| | | |
|---|---|---|
| *a.* Ad. sk. | Gaboon. | M. Verreaux. |
| *b, c.* Ad. sk. | Gaboon (*Duchaillu*). | Sharpe Coll. |
| *d.* Ad. sk. | Camma River, Gaboon (*Duchaillu*). | Tweeddale Coll. |
| *e.* Ad. sk. | Sassa, Niam-Niam Country, Oct. | F. Bohndorff [C.]. |

## 7. SMILORHIS.

Type.
Smilorhis, *Sundev. Av. Meth. Tent.* p. 75 (1872)..... S. leucotis.

*Range.* Confined to Africa.

*Key to the Species.*

*a.* Lower part of back dark brown; mantle and back light brown..... *leucotis*, p. 37.
*b.* Lower back and rump white; mantle and upper back blackish..... *kilimensis**, p. 37.

* *Smilorhis bocagii* A. Souza, Jorn. Lisb. xliii. p. 158 (1886), seems to be nearly allied to the East-African bird.

### 1. Smilorhis leucotis.

Megalæma leucotis, *Sundev. Œfv. K. Vet.-Akad. Stockh.* 1850, p. 109; *Licht. Nomencl. Av.* p. 74 (1854).
Megalaima leucotis, *Goffin, Mus. Pays-Bas,* Buccones, p. 48 (1863); *Layard, B. S. Afr.* p. 234 (1867); *Gray, List Capit. Brit. Mus.* p. 16 (1868); *id. Hand-l. B.* ii. p. 176, no. 8475 (1870); *Finsch & Hartl. Vög. Ost-Afr.* p. 505 (1870).
Barbatula leucotis, *Marsh. Monogr. Capit.* p. 131, pl. 52 (1871); *Gurney, Ibis,* 1873, p. 255.
Smilorhis leucotis, *Sundev. Av. Meth. Tent.* p. 75 (1872); *Sharpe, ed. Layard's B. S. Afr.* p. 177 (1884).

*Adult male.* General colour above light brown on the mantle, upper back, and scapulars, the feathers edged with pale fawn-brown or buff; lower back, rump, and upper tail-coverts blackish, the sides of the lower back white; wing-coverts and quills brown, blackish towards the ends and on the outer web; tail-feathers blackish brown; head and hind neck black, with glossy black shafts; a broad white band from behind the eye extending to the sides of the neck; sides of face, ear-coverts, cheeks, throat, and chest blackish, the latter rather paler brown, especially on the sides; breast, abdomen, and under tail-coverts white; sides of body blackish, some of the feathers white-edged; thighs brown; under wing-coverts and axillaries white; quills dusky below, white along the inner web: "bill and feet black" (*J. Wahlberg*). Total length 6·2 inches, culmen 0·8, wing 2·45, tail 1·85, tarsus 0·9.

*Hab.* South-eastern Africa, from Natal to Mozambique.

*a.* ♀ ad. sk. Natal, Nov. 8 (*J. Wahlberg*). Sharpe Coll.

### 2. Smilorhis kilimensis.

Megalæma leucotis (*nec Sund.*), *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 125.
Barbatula leucotis (*nec Sund.*), *Shelley, P. Z. S.* 1885, p. 223; *id. P. Z. S.* 1889, p. 357.
Smilorhis kilimensis, *Shelley, Ibis,* 1889, p. 477.

*Adult female.* Similar to *S. leucotis*, but blacker; the lower back, rump, and upper tail-coverts white, or else the feathers dull brown, externally white: "bill and feet black; iris brown" (*G. A. Fischer*). Total length 7 inches, culmen 0·8, wing 3·65, tail 2·12, tarsus 0·8.

*Hab.* Replaces *S. leucotis* in East Africa.

*a, b.* Ad. sk. Kilimanjaro, 3000–6000 ft. H. H. Johnston, Esq. [C.]. (Types of species.)
*c.* ♀ ad. sk. Taveta, June. H. C. V. Hunter, Esq. [P.].

## 8. BARBATULA.

| | Type. |
|---|---|
| Barbatula, *Less. Compl. Buff.* ix. p. 292 (1837) ..... | B. erythronota. |
| Xylobucco, *Bp. Consp.* i. p. 141 (1850) ..... | B. scolopacea. |
| Buccanodon, *Verr. in Hartl. Orn. W.-Afr.* p. 171 (1857). | B. duchaillui. |
| Cladurus, *Reichen. J. f. O.* 1877, p. 17 ..... | B. duchaillui. |
| Lignobucco, *Reichen. J. f. O.* 1887, p. 3 ..... | B. scolopacea. |

*Range.* Confined to Africa.

*Key to the Species.*

*a*. Forehead red or yellow; mantle black, mottled or streaked with yellow or white.
  *a'*. Throat black ..... *duchaillui*, p. 38.
  *b'*. No black on throat.
    *a''*. Fore part of crown crimson.
      *a'''*. Rump sulphur-yellow.
        $a^4$. Larger; streaks on hind neck and mantle yellowish ..... *pusilla*, p. 39.
        $b^4$. Smaller; streaks on hind neck and mantle white.
          $a^5$. Breast pale green ..... *minuta*, p. 40.
          $b^5$. Breast sandy buff..... *affinis*, p. 41.
      *b'''*. Rump orange..... *uropygialis*, p. 41.
    *b''*. Fore part of crown orange-yellow.
      *c'''*. Smaller: under surface yellow, the throat like the breast ..... *chrysocoma*, p. 42.
      *d'''*. Larger: throat greenish yellow, contrasting with the sandy-brown chest .. *extoni*, p. 43.
*b*. Forehead black like the rest of the crown and mantle.
  *c'*. Rump crimson ..... *erythronota*, p. 43.
  *d'*. Rump yellow.
    *c''*. Eyebrow and cheek-stripe white.
      *e'''*. Larger: rump orange; wing-coverts and quills edged with sulphur-yellow . *bilineata*, p. 44.
      *f'''*. Smaller: rump orange, as also the edges of the wing-coverts and quills. . *chrysopyga*, p. 45.
      *g'''*. Smaller: rump, as also the edges of the wing-coverts and quills, sulphur-yellow ..... *leucolæma*, p. 45.
    *d''*. Eyebrow and cheek-stripe yellow like the throat ..... *subsulphurea*, p. 46.
*c*. Forehead dark brown like the rest of the upper parts, with yellow edges to the feathers..... *scolopacea*, p. 47.

### 1. Barbatula duchaillui.

Barbatula duchaillui, *Cass. Proc. Acad. Philad.* 1855, p. 324, 1859, p. 140; *Sharpe, Ibis*, 1869, p. 193.
Barbatula formosa, *Verr. Rev. et Mag. de Zool.* 1855, p. 218, pl. 5.
Pogonias duchaillui, *Hartl. Orn. W.-Afr.* p. 171 (1857); *id. J. f. O.* 1861, p. 263.
Buccanodon duchaillui, *Verr. P. Z. S.* 1859, p. 397; *Bouvier, Cat. Ois. Marche &c.* p. 29 (1875).

Megalaima duchaillui, *Goffin, Mus. Pays-Bas*, Buccones, p. 39 (1863); *Gray, List Capit. Brit. Mus.* p. 13 (1868); *id. Hand-l. B.* ii. p. 175, no. 8464 (1870); *Büttik. Notes Leyden Mus.* vii. p. 216 (1885).

Xylobucco duchaillui, *Marshall, Monogr. Capit.* p. 113, pl. 46 (1870); *Sharpe, Cat. Afr. B.* p. 15 (1871); *id. P. Z. S.* 1871, p. 606; *Shelley & Buckley, Ibis*, 1872, p. 207; *Ussher, Ibis*, 1874, p. 55; *Oustalet, Nouv. Arch. Mus.* (2) ii. *Bull.* p. 63 (1879); *Bocage, Orn. Angola*, p. 540 (1881); *Giglioli, Ibis*, 1881, p. 200.

Megalæma duchaillui, *Reichen. J. f. O.* 1875, p. 8.

Cladurus duchaillui, *Reichen. J. f. O.* 1877, p. 17.

Pogonorhynchus duchaillui, *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 85 (1884).

*Adult.* General colour above glossy blue-black, spotted with yellow on the back and scapulars; the lower back, rump, and upper tail-coverts barred with yellow at the ends of the feathers; wing-coverts like the back, the median and lesser coverts tipped with yellow, the greater coverts edged with yellow towards the end of the outer web; bastard-wing, primary-coverts, and quills black, edged with yellow near the ends of the outer web, more broadly on the inner secondaries; tail-feathers black; crown of head glossy blue-black, without any yellow spots; forehead crimson; lores bare; a broad yellow eyebrow, extending from above the eye down the sides of the neck; sides of the face, ear-coverts, cheeks, throat, and fore neck uniform glossy blue-black; remainder of under surface of body yellow, mottled with black bases to the feathers, which are really black, broadly tipped with yellow; under wing-coverts white with a tinge of yellow; quills below dusky, yellowish white along the inner edge; "bill black; iris brown" (*Crossley*). Total length 6·3 inches, culmen 0·65, wing 3, tail 1·8, tarsus 0·75.

*Young.* Differs from the adult in the entire forehead and crown being black, in the almost entire absence of blue gloss, and in the base of the bill being pale.

*Hab.* West Africa, from Liberia to the Gaboon.

| | | |
|---|---|---|
| *a–c.* Ad.; *d–h.* Juv. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *i, k.* Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *l.* Imm. sk. | Abouri, Aguapim, Feb. 22 (*T. E. Buckley*). | Shelley Coll. |
| *m.* Ad. sk. | Camaroon Mts., Feb. 4 (*Crossley*). | Sharpe Coll. |
| *n.* Ad. sk. | Gaboon (*Walker*). | Sharpe Coll. |
| *o.* Ad. sk. | Moonda River, Gaboon (*DuChaillu*). | Sharpe Coll. |

## 2. Barbatula pusilla.

Le Barbion mâle, *Levaill. Barbus*, p. 73, pl. 32 (1806).

Bucco pusillus, *Dumont, Dict. Sci. Nat.* iv. p. 50 (1806, *ex Levaill.*).

Bucco parvus (*nec Gm.*), *Cuv. Règne An.* p. 428 (1817).

Bucco rubrifrons, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 497 (1816).

Capito rubrifrons, *Vieill. Enc. Méth.* p. 1423 (1823).

Bucco barbatula, *Temm. Pl. Col.* iii. Bucco, spp. 18, 19 (1831).

Bucco chrysoptera, *Swains. An. in Menag.* p. 322 (1837).
Barbatula parvus (*nec Gm.*), *Hartl. Rev. et Mag. Zool.* 1842, p. 337.
Megalaima barbatula, *Gray, Gen. B.* ii. p. 430 (1846); *Layard, B. S. Afr.* p. 234 (1867).
Barbatula pusilla, *Bonap. Consp. Av.* i. p. 144 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854); *Verr. P. Z. S.* 1859, p. 399 (pt.); *Marshall, Monogr. Capit.* p. 117, pl. 48 (1871); *Sharpe, Cat. Afr. B.* p. 16 (pt.) (1871); *id. ed. Layard's B. S. Afr.* p. 175 (1884).
Barbatula minuta, *Gurney, Ibis*, 1864, p. 353.
Megalaima pusilla, *Goffin, Mus. Pays-Bas*, Buccones, p. 40 (pt.) (1863); *Gray, List Capit. Brit. Mus.* p. 14 (1868); *id. Hand-l. B.* ii. p. 176, no. 8466 (1870).
Megalæma barbatula, *Layard, Ibis*, 1869, p. 372.

*Adult male.* Easily recognizable by its scarlet frontal patch and sulphur-yellow rump; lesser wing-coverts entirely black; the stripes on the back white, washed with greenish yellow; throat and under surface of body pale greenish yellow: "bill black; feet greenish ash; iris very dark brown" (*T. Ayres*). Total length 4·6 inches, culmen 0·5, wing 2·4, tail 1·35, tarsus 0·6.

*Adult female.* Similar in colour to the male. Total length 4·3 inches, culmen 0·55, wing 2·35, tail 1·35, tarsus 0·65.

*Hab.* Confined to South Africa.

| | | |
|---|---|---|
| *a, b.* ♂ ad.; *c, d.* ♀ ad. sk. | Eland's Post, S.E. Africa (*T. C. Atmore*). | Sharpe Coll. |
| *e–g.* Ad. sk. | Durban, Natal (*Gordge*). | Shelley Coll. |
| *h.* ♀ ad. sk. | Pinetown, Natal, May 12 (*T. L. Ayres*). | Shelley Coll. |
| *i.* ♀ ad. sk. | Pinetown, Feb. 8 (*T. L. Ayres*). | Seebohm Coll. |

### 3. Barbatula minuta.

Barbatula minuta, *Bp. Consp. Av.* i. p. 144 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 173 (1857).
Barbatula pusilla (*nec Dumont*), *Heugl. Ibis*, 1861, p. 124; *Blanf. Geol. & Zool. Abyss.* p. 311 (1870); *Sharpe, Cat. Afr. B.* p. 16 (pt.) (1871); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 87 (1884).
Megalaima pusilla, *Goffin, Mus. Pays-Bas*, Buccones, p. 40 (pt.) (1863).
Megalæma pusilla, *Heugl. Orn. N.O.-Afr.* pp. 762, clx (1870); *Finsch, Tr. Z. S.* vii. p. 282 (1870).

*Adult male.* Similar to *B. pusilla*, and having a scarlet frontal patch, but smaller, and distinguished by the white stripes on the back, without any yellow tinge: "bill black; feet leaden blackish; iris dusky" (*Heuglin*). Total length 3·8 inches, culmen 0·5, wing 2·15, tail 1·25, tarsus 0·45.

*Adult female.* Similar to the male in colour. Total length 4 inches, culmen 0·5, wing 2·25, tail 1·25, tarsus 0·5.

*Hab.* North-east Africa, across to Senegambia.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Undul Wells, Abyssinia, April. | W. T. Blanford, Esq. [C.]. |

| | | |
|---|---|---|
| *b*. ♀ ad. sk. | Mayen, Abyssinia, Jan. 23. | W. T. Blanford, Esq. [C.]. |
| *c*. Ad. sk. | Kokai, Bogos-Land (*W. Jesse*). | Sharpe Coll. |
| *d*. Ad. sk. | Waliko, July (*W. Jesse*). | Tweeddale Coll. |

## 4. Barbatula affinis.

Barbatula uropygialis (*nec Heugl.*), *Cab. J. f. O.* 1878, p. 240.
Barbatula affinis, *Reichen. Orn. Centralbl.* 1879, p. 114; *id. J. f. O.* 1879, p. 342; *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 124; *Reichen. J. f. O.* 1887, p. 59; *Shelley, Ibis*, 1888, p. 296; *id. P. Z. S.* 1889, p. 357.

*Adult male.* Similar to *B. minuta*, and with a scarlet frontal patch and white streaks on the back, but differing in the colour of the under surface, which is pale greenish with a white throat, followed by a fulvescent fore neck and throat: "bill and feet black; iris brown" (*G. A. Fischer*). Total length 3·5 inches, culmen 0·45, wing 2·15, tail 1·2, tarsus 0·6.

*Adult female.* Similar in colour to the male. Total length 3·6 inches, culmen 0·45, wing 1·9, tail 1·1, tarsus 0·5.

*Hab.* East Africa.

| | | |
|---|---|---|
| *a*. Ad. sk. | Dar-es-Salaam (*E. C. Buxton*). | Shelley Coll. |
| *b*, *c*. ♀ ad. sk. | Manda Island, Nov. 12. | F. J. Jackson, Esq. [P.]. |
| *d*, *e*. ♂ ad. sk. | Teita, Aug. 26. | H. C. V. Hunter, Esq. [P.]. |
| *f*. Ad. sk. | Useri River, July 15. | H. C. V. Hunter, Esq. [P.]. |

## 5. Barbatula uropygialis.

Barbatula pusilla (pt.), *Heugl. Ibis*, 1861, p. 124.
Barbatula uropygialis, *Heugl. J. f. O.* 1862, p. 37; *Marshall, Monogr. Capit.* p. 121, pl. 49. fig. 1 (1871); *Antin. & Salvad. Viagg. Bogos*, p. 43 (1873).
Megalaima uropygialis, *Goffin, Mus. Pays-Bas*, Buccones, p. 42 (1863); *Gray, List Capit. Brit. Mus.* p. 14 (1868); *id. Hand-l. B.* ii. p. 176, no. 8470 (1870); *Heugl. Orn. N.O.-Afr.* pp. 761, clix, tab. xxviii. (1871); *Cab. J. f. O.* 1878, p. 240.

*Adult.* Of small size; forehead scarlet on a yellow ground; patch on rump fiery red, slightly varied with black; abdomen whitish, washed with pale sulphur-yellow; under tail-coverts sulphur-yellow; bill blackish; feet dusky black; iris dusky. Total length 4 inches, culmen about 5‴, wing 1″ 1‴–2″, tail 1″ 3½‴, tarsus 6‴. (*Heuglin.*)

*Hab.* North-eastern Africa, extending to the Mombasa district in East Africa.

### 6. Barbatula chrysocoma.

Bucco chrysocoma, *Temm. Pl. Col.* iii. pl. 536. fig. 2 (1823); *Hartl. Rev. et Mag. Zool.* 1842, p. 337.

Bucco parvus, var., *Less. Traité*, p. 165 (1831).

Barbatula chrysocoma, *Rüpp. Syst. Uebers.* p. 95 (1845); *Bp. Consp. Av.* i. p. 145 (1850); *Hartl. J. f. O.* 1854, p. 196; *Heugl. Syst. Uebers.* p. 47 (1856); *Hartl. Orn. W.-Afr.* p. 173 (1857); *Verr. P. Z. S.* 1859, p. 398; *Heugl. Ibis*, 1861, p. 124; *Antin. Cat. descr. Ucc.* p. 82 (1864); *Sharpe, Ibis*, 1870, p. 485; *Marshall, Monogr. Capit.* p. 119, pl. 49 (1871); *Sharpe, Cat. Afr. B.* p. 16 (1871); *Ussher, Ibis*, 1874, p. 55; *Pelz. Verh. z.-b. Gesellsch. Wien*, xxxi. p. 153 (1881); *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 209 (1883); *Shelley, P. Z. S.* 1888, p. 42.

Megalaima chrysocoma, *Gray, Gen. B.* ii. p. 430 (1846); *Goffin, Mus. Pays-Bas*, Buccones, p. 41 (1863); *Gray, Hand-l. B.* ii. p. 176, no. 8467 (1870).

Bucco aurifrons, *Heugl. J. f. O.* 1867, p. 300 (*ex Pr. von Würt. MSS.*).

Megalæma chrysocoma, *Heugl. Orn. N.O.-Afr.* pp. 760, clix (1871).

*Adult male.* General colour above yellowish white, streaked with dusky black, the feathers being white, edged with black, the black edging being especially broad and distinct on the hind neck; lower back and upper tail-coverts sulphur-yellow; lesser and median wing-coverts golden yellow, or black with golden-yellow edges; greater coverts blackish, with white or yellowish-white margins; bastard-wing and primary-coverts blackish; quills blackish, edged with golden yellow, the inner secondaries rather broadly so with white; tail-feathers blackish, edged with sulphur-yellow; crown of head like the hind neck and similarly striped; a large frontal patch of golden yellow; a narrow line across the base of the forehead joined to another line which skirts the sides of the crown, black; lores, eyebrow, and a streak under the eye white, followed by a black band along the ear-coverts; cheeks white, separated from the throat by a broad black stripe; throat and under surface of body pale yellow, inclining to sulphur-yellow on the under tail-coverts; under wing-coverts and axillaries, as well as the quill-lining, white: "bill blackish; feet dusky leaden colour; iris dusky" (*Heuglin*). Total length 4 inches, culmen 0·45, wing 2·1, tail 1·12, tarsus 0·5.

*Adult female* (Kibiro: Emin Pasha). Similar to the male in plumage. Total length 4·7 inches, culmen 0·5, wing 2·35, tail 1·25, tarsus 0·55.

Not only is this specimen from Kibiro larger than those from West Africa, but it appears to be more sulphur-yellow underneath, and to have the upper tail-coverts black, edged with yellow, whereas in true *B. chrysocoma* they are yellow like the rump. I do not like, however, to separate the two birds without examining a larger series.

*Hab.* West Africa, from Senegambia to the Gold Coast, and North-east Africa to the Equatorial Region.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Casamanse, Senegambia. | Sharpe Coll. |
| *b*. Ad. sk. | River Volta (*H. T. Ussher*). | Sharpe Coll. |
| *c*. Ad. sk. | Abyssinia. | Sharpe Coll. |
| *d*. ♀ ad. sk. | Kibiro, Equatorial Africa, Oct. 9. | Emin Pasha [P.]. |

## 7. Barbatula extoni.

Megalaima chrysocoma (*nec Temm.*), *Gray, List Capit. Brit. Mus.* p. 14 (1868).

Barbatula extoni, *Layard, Ibis*, 1871, p. 226; *Sharpe, Cat. Afr. B.* p. 16 (1871); *Ayres, Ibis*, 1879, p. 296; *Holub & Pelz. Beitr. Orn. Südafr.* p. 162 (1882); *Shelley, Ibis*, 1882, p. 248; *Ayres, Ibis*, 1884, p. 226; *Sharpe, ed. Layard's B. S. Afr.* pp. 176, 811 (1884).

Barbatula chrysocoma, *Bocage, Orn. Angola*, p. 109 (1881).

*Adult male* (type of species). Similar to *B. chrysocoma*, and with the same golden-yellow patch on the forehead, but larger, and distinguished by the dingy olive-yellow under surface, against which the sulphur-yellow throat stands out conspicuously: "bill black; tarsi and feet dusky brown; iris dusky umber" (*T. Ayres*). Total length 4·6 inches, culmen 0·5, wing 2·5, tail 1·35, tarsus 0·6.

*Adult female*. Similar to the male in colour. Total length 4 inches, culmen 0·55, wing 2·4, tail 1·3, tarsus 0·6.

*Hab*. South-eastern Africa.

| | | |
|---|---|---|
| *a* ♂ ad. sk. | Transvaal (*Wahlberg*). | Sharpe Coll. |
| *b*. ♂ ad. sk. | Magaliesberg Mts., Transvaal, Dec. 16 (*T. Ayres*). | Sharpe Coll. |
| *c*. ♂ ad.; *d*, *e*. ♀ ad. sk. | Rustenberg, Oct., Nov. (*T. Ayres*). | Shelley Coll. |
| *f*. ♂ ad. sk. | Kanye, Matabele Country (*Dr. Exton*). | Sharpe Coll. (Type of species.) |
| *g*. ♂ ad. sk. | Kanye (*J. S. Jameson*). | Shelley Coll. |
| *h*. ♂ ad. sk. | Caconda, Benguela, Nov. (*J. Anchieta*). | Shelley Coll. |

## 8. Barbatula erythronota.

Le Barbion à dos rouge, *Levaill. Barbus*, p. 132, pl. 57 (1806).

Bucco erythronotus, *Cuv. Règne An.* p. 428 (1817, *ex Levaill.*); *Temm. Pl. Col.* iii. Bucco, sp. 20 (1823).

Barbatula erythronota, *Hartl. Rev. et Mag. Zool.* 1842, p. 337.

Megalaima atroflava, *Gray, Gen. B.* ii. p. 430 (1846); *Goffin, Mus. Pays-Bas*, Buccones, p. 42 (1863); *Gray, List Capit. Brit. Mus.* p. 14 (1868); *id. Hand-l.* ii. p. 176, no. 8471 (1870).

Barbatula atroflava, *Bp. Consp. Av.* i. p. 145 (1850); *Strickl. Contr. Orn.* 1851, p. 125; *Verr. Rev. et Mag. Zool.* 1851, p. 262; *Hartl. J. f. O.* 1854, p. 196; *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 172 (1857); *Verr. P. Z. S.* 1859, p. 398; *Hartl. J. f. O.* 1861, p. 262; *Sharpe, Ibis*, 1870, p. 485; *id. Cat. Afr. B.* p. 16 (1871); *Marshall, Monogr. Capit.* p. 136, pl. 50. fig. 1 (1871); *Ussher, Ibis*, 1874, p. 55; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 311 (1876); *Oustalet, Nouv. Arch. Mus.* (2) ii. *Bull.* p. 127 (1879).

Megalæma atroflava, *Büttik. Notes Leyd. Mus.* x. p. 95 (1888).

*Adult male.* Glossy blue-black ; lesser wing-coverts like the back, the median series broadly tipped with yellow, forming a band ; greater coverts and secondaries black, narrowly edged with yellow on the outer web ; bastard-wing, primary-coverts, and primaries entirely black ; lower back with a large patch of scarlet which hides the black upper tail-coverts ; tail-feathers black, narrowly fringed with yellow ; head like the back ; sides of face and ear-coverts also blue-black, with the following markings : above the eye a narrow streak of yellow ; behind the eye another streak of the same colour, skirting the ear-coverts ; a broad streak of yellowish white runs from the base of the nostrils to below the eye ; below the ear-coverts a streak of bright yellow along the cheeks followed by a very distinct malar band of black ; under surface of the body dull greenish yellow ; under wing-coverts and axillaries yellowish white ; quills dusky blackish below, yellowish buff along the inner webs : " bill black ; legs grey ; iris black " (*J. Büttikofer*). Total length 4·5 inches, culmen 0·55, wing 2·45, tail 1·2, tarsus 0·6.

*Young.* Only differs from the adults in being much duller in colour, and in having the black of the upper parts washed with yellow and the scarlet of the lower back much duller.

*Hab.* West Africa, from Liberia to the Congo.

| | | |
|---|---|---|
| *a.* Juv. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *b.* Juv. sk. | Yancoomassie, Gold Coast (*H. F. Blissett*). | Shelley Coll. |
| *c.* Ad. sk. | Gaboon. | Sharpe Coll. |
| *d.* Ad. sk. | Gaboon. | Shelley Coll. |
| *e.* ♂ ad. sk. | Landana, Congo (*Dr. Lucan*). | Shelley Coll. |

### 9. **Barbatula bilineata.** (Plate III. fig. 2.)

Megalæma bilineata, *Sundev. Œfv. K. Vet.-Akad. Stockh.* 1850, p. 109.

Megalaima bilineata, *Goffin, Mus. Pays-Bas*, Buccones, p. 43 (1863) ; *Layard, B. S. Afr.* p. 234 (1867) ; *Gray, List Capit. Brit. Mus.* p. 15 (1868) ; *id. Hand-l. B.* ii. p. 176, no. 8472 (1870).

Barbatula bilineata, *Marshall, Monogr. Capit.* p. 125, pl. 50. fig. 2 (1870) ; *Sharpe, ed. Layard's B. S. Afr.* p. 176 (1884) ; *W. Ayres, Ibis*, 1887, p. 52.

*Adult female.* Similar to *B. leucolæma*, but much more of a greenish-black colour, and further distinguished by the lower back being orange instead of sulphur-yellow : " bill black ; legs ash-colour " (*W. Ayres*). Total length 3·7 inches, culmen 0·55, wing 2·1, tail 1·1, tarsus 0·65.

*Hab.* South-east Africa.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Olifants River, N.E. Transvaal, July 27 (*T. Ayres*). | J. H. Gurney, Esq. [P.]. |

### 10. Barbatula chrysopyga. (Plate III. fig. 1.)

Barbatula leucolæma (*nec Verr.*), *Sharpe, Ibis*, 1869, p. 193.
Xylobucco subsulphurea (*nec Fras.*), *Shelley & Buckley, Ibis*, 1872, p. 287.
Megalæma subsulphurea (*nec Fras.*), *Büttik. Notes Leyden Mus.* x. p. 94 (1888).
Barbatula chrysopyga, *Shelley, Ibis*, 1889, p. 477.

*Adult female.* Similar to *B. leucolæma*, but differs in being rather more greenish black above, and in having the rump and edges of the wing-coverts and quills orange. It is therefore very like *B. bilineata*, but the latter has the edges of the coverts and quills sulphur-yellow. Total length 3·3 inches, culmen 0·45, wing 1·85, tail 1·05, tarsus 1.

*Young.* Coloured like the adult, but much more dusky, the upper surface washed with olive, the eyebrow and cheek-stripe somewhat tinged with yellow; the bill pale horny; the under surface greenish yellow, the throat ashy white.

*Hab.* West Africa, from Liberia to the Gold Coast.

| | | |
|---|---|---|
| *a–d.* Ad.; *e.* Juv. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *f, g.* Ad. sk. | Fanteé (*H. T. Ussher*). | Shelley Coll. |
| *h.* ♀ ad. sk. | Abouri, Aguapim, Feb. 22 (*G. E. S.*). | Shelley Coll. |
| *i.* ♀ ad. sk. | Abouri, Feb. 20 (*T. Buckley*). | Shelley Coll. |

### 11. Barbatula leucolæma.

Barbatula leucolæma, *J. & E. Verr. Rev. et Mag. Zool.* 1851, p. 265.
Barbatula leucolæma, *Strickl. Contr. Orn.* 1851, p. 135; *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 173 (1857); *Verr. P. Z. S.* 1859, p. 398; *Marshall, Monogr. Capit.* p. 129, pl. 51. fig. 2 (1871, fig. inacc.); *Shelley, P. Z. S.* 1888, p. 42.
Megalaima leucolaima, *Goffin, Mus. Pays-Bas*, Buccones, p. 46 (1863); *Gray, List Capit. Brit. Mus.* p. 15 (1868); *id. Hand-l. B.* ii. p. 176, no. 8468 (1870); *Büttik. Notes Leyden Mus.* vii. p. 216 (1885), viii. p. 263 (1886).
Barbatula subsulphurea (*nec Fras.*), *Sharpe & Bouvier, Bull. Soc. Zool. France*, iii. p. 78 (1878); *Bocage, Orn. Angola*, p. 539 (1881); *Nicholson, P. Z. S.* 1878, p. 181.
Megalæma bilineata, *Reichen. J. f. O.* 1877, p. 17 (*nec Sundev.*).
? Barbatula leucolæma, *Böhm, J. f. O.* 1883, p. 167.

*Adult.* General colour above glossy blue-black, including the upper tail-coverts; rump bright yellow; lesser wing-coverts like the back; median and greater coverts, quills, and tail-feathers black, edged with bright yellow; the bastard-wing, primary-coverts, and primaries black, without any yellow margins; crown of head like the back; a broad line of white extending from the nostrils along the cheeks; feathers round the eye and ear-coverts black, surmounted by a broad superciliary band of white, extending from above the eye to the sides of the nape; a broad malar line of black;

throat and fore neck ashy white; breast pale sulphur-yellow, duller and more ashy on the sides of the body, thighs, and under tail-coverts; under wing-coverts, axillaries, and quill-lining white, with a slight tinge of yellow: "bill black; feet and iris dusky brown" (*Emin Pasha*). Total length 3·7 inches, culmen 0·45, wing 2·05, tail 1, tarsus 0·55.

*Young*. Similarly coloured to the adult, but much more dusky, being sooty black above, with only a slight wash of glossy blue, all the yellow markings much paler than in the adult; under surface as in the adult, but more dingy and with the throat more ashy: "bill black, pale horny at the basal part of the maxilla and on the lower mandible; feet lead-colour; iris umber-brown" (*Emin Pasha*).

*Hab*. West Africa from Senegambia to the Congo, and across to Equatorial Africa and probably to Zanzibar.

| | | |
|---|---|---|
| *a*. Ad. sk. | River Gambia. | Sharpe Coll. |
| *b*. Ad. sk. | Casamance. | Sharpe Coll. |
| *c*. Ad. sk. | Sierra Leone. | Tweeddale Coll. |
| *d*. Ad. sk. | W. Africa. | M. J. Verreaux. |
| *e*. Ad. sk. | Ashantee. | J. Gould. |
| *f*. Ad. sk. | Cape Coast Castle. | Sharpe Coll. |
| *g*. Ad. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *h, i*. Ad. sk. | Accra (*Haynes*). | Sharpe Coll. |
| *k, l*. Ad sk. | Abeokuta. | F. Nicholson, Esq. [P.]. |
| *m*. ♂ ad. sk. | Landana, Congo (*L. Petit*). | Shelley Coll. |
| *n, o, p*. ♂ ad.; *q, r*. ♂ ♀ juv. sk. | Tomaja, Equatorial Africa, Aug. | Emin Pasha [P.]. |

## 12. Barbatula subsulphurea *.

Bucco subsulphurea, *Fraser, P. Z. S.* 1843, p. 3; *Allen & Thomps. Exped. Niger*, ii. p. 404 (1848); *Fraser, Zool. Typ.* p. 52 (1849).

Capito? subsulphureus, *Gray, Gen. B.* ii. p. 430 (1846).

Trachyphonus subsulphureus, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 12 (1854).

Barbatula flavimentum, *J. & E. Verr. Rev. et Mag. Zool.* 1851, p. 264.

Barbatula subsulphurea, *Strickl. Contr. Orn.* 1851, p. 35; *Hartl. J. f. O.* 1854, p. 195; *id. Orn. W.-Afr.* p. 172 (pt.); *Verr. P. Z. S.* 1859, p. 398; *Cass. Proc. Acad. Philad.* 1859, p. 140; *Hartl. J. f. O.* 1861, p. 262; *Sharpe, Cat. Afr. B.* p. 16 (1871, pt.).

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* Closely allied to this species must be

BARBATULA FISCHERI.

Barbatula fischeri, *Reichen. Orn. Centralbl.* 1880, p. 181; *Fischer, J. f. O.* 1885, p. 125.

Very similar to *B. bilineata*, but smaller and with the white eye-stripe washed with pale sulphur-yellow. Total length 3·4 inches, wing 2, tail 1·15, culmen 0·45 (*Reichenow*).

*Hab*. Zanzibar district of Eastern Africa.

Megalaima subsulphurea, *Goffin, Mus. Pays-Bas*, Buccones, p. 44 (1863); *Gray, List Capit. Brit. Mus.* p. 15 (1868); *id. Hand-l. B.* ii. p. 176, no. 8469 (1870).

*Adult.* Similar to *B. leucolæma*, but with brighter sulphur-yellow on the rump and margins of the wing-coverts and quills. It is, however, easily distinguished by the yellow eyebrow and facial stripe; the under surface is pale sulphur-yellow, washed with ashy, the throat itself being bright sulphur-yellow like the eyebrow and band below the eye. Total length 3·4 inches, culmen 0·5, wing 1·95, tail 0·85, tarsus 0·55.

*Young.* Similar to the adult, but more dingy in colour, and easily recognized by its paler and more horny bill.

*Hab.* West Africa, from the Volta River to the Gaboon.

| | | |
|---|---|---|
| *a.* Ad. sk. | River Volta (*H. T. Ussher*). | Sharpe Coll. |
| *b.* Ad. sk. | Gaboon. | Sharpe Coll. |
| *c.* Ad. sk. | Gaboon (*DuChaillu*). | Tweeddale Coll. |
| *d.* Juv. sk. | Gaboon (*DuChaillu*). | Sharpe Coll. |
| *e.* Ad. sk. | Ogowé River, Gaboon (*A. Marche*). | Shelley Coll. |

## 13. Barbatula scolopacea.

Bucco scolopacea, *Temm. Mus. Lugd.*

Xylobucco scolopacea, *Bp. Consp. Av.* i. p. 141 (1850); *Hartl. J. f. O.* 1854, p. 195; *Verr. P. Z. S.* 1859, p. 397; *Sharpe, Ibis*, 1870, p. 70; *id. Cat. Afr. B.* p. 15 (1871); *Marshall, Monogr. Capit.* p. 115, pl. 47 (1871); *Shelley & Buckley, Ibis*, 1872, p. 287; *Ussher, Ibis*, 1874, p. 55; *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 311; *Oustalet, Nouv. Arch. Mus.* (2) ii. *Bull.* p. 64 (1879); *Bocage, Orn. Angola*, p. 108 (1881).

Bucco stellatus, *Jardine & Fraser, Contr. Orn.* 1851, p. 155.

Barbatula flavisquamata, *Verr. J. f. O.* 1855, p. 101.

Barbatula (Xylobucco) scolopacea, *Hartl. Orn. W.-Afr.* p. 174 (1857).

Barbatula scolopacea, *Cassin, Proc. Acad. Philad.* 1859, p. 140.

Megalaima scolopacea, *Goffin, Mus. Pays-Bas*, Buccones, p. 47 (1863); *Gray, List Capit. Brit. Mus.* p. 15 (1868); *id. Hand-l. B.* ii. p. 176, no. 8473 (1870); *Büttik. Notes Leyden Mus.* vii. p. 217, viii. p. 263 (1886), x. p. 95 (1888).

Megalaima stellata, *Gray, List Capit. Brit. Mus.* p. 16 (1868); *id. Hand-l. B.* ii. p. 176, no. 8474 (1870).

Megalæma scolopacea, *Reichen. J. f. O.* 1875, p. 8.

Lignobucco consobrinus, *Reichen. J. f. O.* 1887, p. 309.

*Adult.* Blackish brown above, all the feathers distinctly edged with bright olive-yellow, less plainly on the lower back and rump, which are rather more dusky; quills and tail-feathers dark brown, edged with olive-yellow; sides of the face like the upper surface and similarly margined with yellow; cheeks and throat ashy whitish, gradually shading into the olive-yellow of the breast and abdomen; the sides of the body mottled with dusky spots and bars; under wing-coverts and axillaries white, tipped with yellow: "bill

black; feet greyish green; iris pale yellow" (*J. Büttikofer*). Total length 4·2 inches, culmen 0·65, wing 2·2, tail 1·05, tarsus 0·65.

*Young.* Duller than the adults and more olive-green, with a greyish throat and the breast mottled with blackish spots.

*Hab.* West Africa, from Senegambia to the Gaboon.

| | | |
|---|---|---|
| *a.* Ad. sk. | Ashantee. | Gould Coll. |
| *b.* Ad. sk. | Sweet River, Fantee, Dec. 30 (*H. T. Ussher*). | Sharpe Coll. |
| *c–f.* Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *g.* Ad. sk. | Wasa Province, Gold Coast (*H. F. Blissett*). | Shelley Coll. |
| *h, i.* Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *k, l.* Ad. sk. | Abouri, Aguapim, Feb. 20 (*G. E. S.*). | Shelley Coll. |
| *m.* Juv. sk. | Clarence River, Fernando Po. | L. Fraser, Esq. [C.]. (Type of *B. stellatus.*) |
| *n.* Ad. sk. | Gaboon (*Du Chaillu*). | Sharpe Coll. |
| *o.* Ad. sk. | Gaboon. | Sharpe Coll. |

## 9. STACTOLÆMA.

Stactolema, *Marshall, P. Z. S.* 1870, p. 118 ..... Type. S. anchietæ.

*Range.* Confined to Tropical Africa.

*Key to the Species.*

*a.* Forehead and throat yellow ..... *anchietæ*, p. 48.
*b.* Forehead and throat olive-green like the body .... *olivaceum*, p. 49.

### 1. Stactolæma anchietæ.

Buccanodon anchietæ, *Bocage, P. Z. S.* 1869, p. 436, pl. 29; *id. Jorn. Lisb.* viii. p. 348 (1870).

Stactolæma anchietæ, *Marsh. P. Z. S.* 1870, p. 118, fig. 1; *iid. Monogr. Capit.* p. 181, pl. 73 (1871); *Bocage, Orn. Angola*, p. 110 (1881); *Sharpe, ed. Layard's B. S. Afr.* p. 179 (1881); *Souza, Jorn. Lisb.* 1886, p. 159.

Megalaima anchietæ, *Gray, Hand-l. B.* ii. p. 175, no. 8465 (1870).

*Adult male.* General colour above brown; wings blackish brown, the quills with hoary whitish margins; centre tail-feathers ashy grey, the remainder dusky, externally ashy grey; forehead and occiput pale sulphur-yellow, the hinder crown and sides of the neck blackish with sulphur-yellow tips to the feathers; hind neck blackish; feathers above and below the eye and ear-coverts hoary white; throat sulphur-yellow; remainder of under surface of body brown, the lower abdomen, under tail-coverts, under wing-coverts, and axillaries whitish; quills dusky below, whitish along the inner web: "bill and feet black; iris reddish brown" (*Anchieta*). Total length 7 inches, culmen 0·8, wing 3·7, tail 2·1, tarsus 0·85.

*Adult female.* Similar to the male. Total length 6·8 inches, culmen 0·75, wing 3·6, tail 1·95, tarsus 0·8.

*Hab.* Benguela.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | Caconda, Benguela, April, July (*J. Anchieta*). | Shelley Coll. |
| *c*, *d*. ♂ ♀ ad. sk. | Caconda (*J. Anchieta*). | Lisbon Museum [P.]. |
| *e*. ♂ ad. sk. | Caconda, Jan. (*J. Anchieta*). | Sharpe Coll. |

### 2. Stactolæma olivaceum *.

Barbatula olivacea, *Shelley, Ibis*, 1880, p. 334, pl. 7; *id. P. Z. S.* 1881, p. 593.
Stactolæma olivaceum, *Shelley, Ibis*, 1889, p. 477.

*Adult.* General plumage olive-green; forehead and crown dusky black, shading into olive-green on the occiput and nape; quills dark brown, with broad olive edges to their outer webs, increasing in extent from the third primary; the two outer primaries not edged with olive; both webs of the inner secondaries olive-green; a part of the inner margins of the quills buff; upper surface of the tail olive-green, with dark brown shafts; under surface of the tail ashy olive, with pale brown shafts; entire under surface of the body olive, paler than the back; sides of the head and the upper throat of a dusky shade, becoming almost black on the chin and in front of the eyes; under surface of the wings dark brown, with the coverts and portion of the inner webs of the quills buff; bill and claws black; legs brownish black. Total length 6·6 inches, culmen 0·7, wing 3·35, tail 2·1, tarsus 0·9.

*Hab.* Eastern Africa.

| | | |
|---|---|---|
| *a*. Ad. sk. | Rabbai, near Mombasa (*Rev. J. Wakefield*). | Shelley Coll. (Type of species.) |

## 10. CALORHAMPHUS.

| | Type. |
|---|---|
| Calorhamphus, *Less. Rev. Zool.* 1839, p. 139 (May) ..... | C. hayi. |
| Megalorhynchus, *Eyton, P. Z. S.* 1839, p. 106 ..... | C. hayi. |

*Range.* From Southern Tenasserim down the Malay Peninsula to Sumatra and Borneo.

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* I fancy that the following species, which I have never seen, must be closely allied to my *S. olivaceum*:—

STACTOLÆMA SIMPLEX.

Barbatula simplex, *Fischer & Reichen. J. f. O.* 1884, p. 180; *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 124.

Upper parts olive-green; rump citron-yellow; under surface greenish grey; wings and tail-feathers black, with greenish yellow on the outer webs; the quills with buffy white inner webs; under wing-coverts white; bill brownish black, the base buff; feet black; iris brown. Length 4·2 inches, wing 2·05, tail 1·2, culmen 0·4. (*Fischer & Reichenow.*)

*Hab.* Eastern Africa.

*Key to the Species.*

*a*. Throat only slightly tinted with red ..... *hayi*, p. 50.
*b*. Throat fiery brick-red ..... *fuliginosus*, p. 51.

### 1. Calorhamphus hayi.

Bucco lathami (*nec Gm.*), *Raffl. Trans. Linn. Soc.* xiii. p. 284 (1820).
Bucco hayi, *J. E. Gray, Zool. Misc.* p. 33 (1832).
Calorhamphus sanguinolentus, *Less. Rev. Zool.* 1839, p. 139.
Megalorhynchus spinosus, *Eyton, P. Z. S.* 1839, p. 106.
Megalorhynchus lathami (*nec Gm.*), *Blyth, J. A. S. B.* xi. p. 202 (1842).
Calorhamphus lathami (*nec Gm.*), *Blyth, J. A. S. B.* xv. p. 13 (1846); *Marshall, Monogr. Capit.* p. 179, pl. 72 (1870); *Gray, Hand-l. B.* ii. p. 176, no. 8479 (1870).
Megalorhynchus hayi, *Gray, Gen. B.* ii. p. 431 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 69 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 648 (1856); *Moore, P. Z. S.* 1859, p. 455; *Stoliczka, J. A. S. B.* xxxix. p. 282 (1870); *Walden, Ibis*, 1871, p. 163.
Psilopus hayi, *Bonap. Consp. Av.* i. p. 141 (1850).
Calorhamphus hayi, *Gray, List Capit. Brit. Mus.* p. 19 (1868); *Hume, Str. F.* 1875, p. 319; *Hume & Davison, Str. F.* 1878, pt. 1, p. 149; *Hume, Str. F.* 1879, pp. 53, 88; *Oates, Handb. B. Brit. Burm.* ii. p. 138 (1883); *Sharpe, P. Z. S.* 1888, p. 281.
Calorhamphus fuliginosus (*nec Temm.*), *Büttik. Notes Leyden Mus.* ix. p. 16 (1887).

*Adult male.* General colour above dark brown, with margins of olive-yellow to the dorsal feathers, more distinct on the rump and upper tail-coverts; wing-coverts and quills dark brown, with scarcely any indication of olive margins; tail-feathers dark brown; crown of head darker brown than the back, with glossy black shaft-lines: lores, sides of face, ear-coverts, and cheeks brown, slightly washed with brick-red; throat pale reddish brown; fore neck and remainder of the under surface of body yellowish white, clearer yellow on the centre of the breast and abdomen; sides of the body browner, the feathers of the flanks edged broadly with olive-brown; thighs yellowish white, tipped with olive-brown; under tail-coverts and under wing-coverts white, washed with yellow; edge of wing brown; quills below dusky brown, yellowish ashy along the inner edge: "bill black; feet orange; lores black; iris dull red" (*W. Davison*). Total length 6·5 inches, culmen 0·95, wing 3·2, tail 1·85, tarsus 0·8.

*Adult female.* Similar in plumage to the male, but differs in the pale colour of the bill: "bill dirty ochreous brown, tip of lower and edges of upper mandible blackish" (*W. Davison*). Total length 6·4 inches, culmen 0·85, wing 3·1, tail 1·9, tarsus 0·8.

*Young.* Resembles the adult, but has less rufous on the face and throat; the bill pale horn-brown in the skin.

*Hab.* From Southern Tenasserim throughout the Malay Peninsula to Sumatra.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*, *d*. ♀ ad. sk. | Bankasoon, S. Tenasserim, April, June (*W. Davison*). | Hume Coll. |
| *e*. ♂ ad. sk. | Batu Patch, Perak. | L. Wray, Esq. [P.]. |
| *f*–*l*. ♂ ad. et juv.; *m*–*s*. ♀ ad. et juv. sk. | Klang, Feb. to April, July, Aug., Nov. (*W. Davison*). | Hume Coll. |
| *t*. Ad. sk. | Malacca. | Eyton Coll. (Type of *M. spinosus*.) |
| *u*, *v*. ♂ ♀ ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *w*. ♂ ad. sk. | Malacca (*A. R. Wallace*). | Gould Coll. |
| *x*. ♂ ad. sk. | Malacca. | Wallace Coll. |
| *y*, *z*, *a'*. ♂ ad.; *b'*, *c'*, *d'*. ♀ ad. sk. | Malacca, July, Aug., Sept. (*W. Davison*). | Hume Coll. |
| *e'*. ♂ ad.; *f'*, *g'*. ♀ ad. sk. | Nealys, 31 miles from Malacca, Oct. (*W. Davison*). | Hume Coll. |
| *h'*, *i'*. ♂ ♀ ad. sk. | Pulo Seban, Malacca, Oct., Nov. (*W. Davison*). | Hume Coll. |
| *k'*–*o'*. ♂ ad.; *p'*–*s'*. ♀ ad. sk. | Johore, July to Sept. (*W. Davison*). | Hume Coll. |
| *t'*, *u'*. ♂ ♀ ad. sk. | Siedjoendjonng, Sumatra, Oct. (*Carl Bock*). | Tweeddale Coll. |

## 2. Calorhamphus fuliginosus.

Micropogon fuliginosus, *Temm. Pl. Col.* iii. livr. 83 (1830).
Bucco fuliginosus, *Low, Sarawak*, p. 411 (1848).
Megalorhynchus sanguinolentus, *Scl. P. Z. S.* 1863, p. 210.
Calorhamphus fuliginosus, *Gaffin, Mus. Pays-Bas*, Buccones, p. 73, pt. (1863); *Gray, Hand-l. B.* ii. p. 176, no. 8480 (1870); *Marshall, Monogr. Capit.* p. 177, pl. 71 (1871); *Salvad. Ucc. Born.* p. 39 (1874); *Sharpe, Ibis*, 1879, p. 240; *id. P. Z. S.* 1881, p. 792; *id. Ibis*, 1890, p. 6.

*Adult male.* Similar to *C. hayi*, but much darker brown and having the rufous on the face more pronounced, especially on the throat, where it is brick-red or dull vermilion, extending on to the centre of the breast: "iris brownish ochre; bill black; legs coral-red" (*A. Everett*). Total length 6 inches, culmen 0·9, wing 3·3, tail 1·85, tarsus 0·8.

*Adult female.* Similar to the male, but with a pale horny-white bill, the throat dull brick-red, not quite so deep as in the male. Total length 5·3 inches, culmen 0·9, wing 3·15, tail 1·6, tarsus 0·85.

*Hab.* Borneo. Its occurrence in Sumatra is doubtful, for though Dr. Büttikofer states that he has seen specimens from the latter island which were identical with Bornean examples, this is opposed to the evidence afforded by the Museum series; it is possible for a dull-coloured specimen of *C. fuliginosus* to approach *C. hayi* in appearance, but as a rule these two species are easily separable.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Sarawak. | Wallace Coll. |
| *b*. ♂ ad. sk. | Sarawak (*A. R. Wallace*). | Tweeddale Coll. |

| | | |
|---|---|---|
| *c.* Ad. sk. | Sarawak. | Rajah Brooke [P.]. |
| *d.* ♂ ad. sk. | Sarawak, Sept. 20 (*A. Everett*). | Hume Coll. |
| *e.* ♂ ad. sk. | Tagora, Sarawak. | H. Everett, Esq. [P.]. |
| *f.* ♂ ad. sk. | Gunong Trahu, June (*A. Everett*). | Salvin-Godman Coll. |
| *g.* ♀ ad. sk. | Matang, Sarawak, May (*A. Everett*). | Tweeddale Coll. |
| *h.* Imm. sk. | Lumbidan (*Sir H. Low*). | Tweeddale Coll. |
| *i.* ♂ imm. sk. | Lawas River. | J. Whitehead, Esq. [P.]. |
| *k.* ♂ juv. sk. | Binkoka, Northern Borneo. | J. Whitehead, Esq. [P.]. |
| *l.* Ad. sk. | [Sumatra.] | Eyton Coll. |

## 11. MEGALÆMA.

Megalaima, *Gray, List Gen. B.* App. p. 12 (1842). Type. M. marshallorum.

*Range.* From the Himalayas to Tenasserim, and thence to Southern China.

*Key to the Species.*

*a.* Wing-coverts washed with maroon; head green ..... *virens*, p. 52.
*b.* Wing-coverts green, not washed with maroon; head blue ..... *marshallorum*, p. 53.

### 1. Megalæma virens.

Grand Barbu de la Chine, *D'Aubent. Pl. Enl.* vii. fol. 871.
Grand Barbu, *Buff. Hist. Nat. Ois.* vii. 1780, p. 106; *Levaill. Ois. de Parad.* Barbus, ii. 1806, p. 55, pl. 20.
Grand Barbet, *Lath. Gen. Syn.* i. pt. 2, 1783, p. 503.
Bucco virens, *Bodd. Tabl. Pl. Enl.* 1783, p. 53.
Bucco grandis, *Gm. S. N.* i. 1788, p. 408; *Temm. Pl. Col. Tabl. Méth.* 1836, p. 55; *Bp. Consp.* i. 1850, p. 143.
Capito grandis, *Vieill. N. Dict. d'Hist. Nat.* iv. 1816, p. 499.
Megalaima virens, *Gray, Gen. B.* ii. 1846, p. 429.
Megalæma virens, *Swinh. Ibis*, 1861, p. 411; *id. P. Z. S.* 1863, p. 269, 1871, p. 391; *Hume, Str. F.* 1874, p. 472; *David & Oust. Ois. Chine*, 1877, p. 56; *Hume & Davison, Str. F.* vi. 1878, p. 150; *Hume, Str. F.* ix. 1879, p. 88; *Bingham, t. c.* p. 473, x. 1880, p. 166; *Oates, Handb. B. Brit. Burm.* ii. 1883, p. 130; *Styan, Ibis*, 1887, p. 230.
Megalæma marshallorum (*nec Swinh.*), *Blyth & Walden, B. Burm.* 1875, p. 73, pt.; *Wardlaw Ramsay, Ibis*, 1877, p. 457; *Oates, Handb. B. Brit. Burm.* ii. 1883, p. 129.

*Adult male.* Similar to *M. marshallorum*, but with the head and throat verditer-blue, inclining to greenish; a maroon shade on the median wing-coverts, and with no yellow on the hind neck, the latter having only a few verditer-blue shaft-lines: "bill and gape

wax-yellow, the former white at tip of lower mandible, dark horny to the end of the upper mandible; legs and feet dirty sap-green, claws horny; iris dark brown" (*C. T. Bingham*). Total length 13 inches, culmen 1·65, wing 5·5, tail 3·7, tarsus 1·3.

*Adult female.* Similar to the male. Total length 11·2 inches, culmen 1·8, wing 5·6, tail 3·6, tarsus 1·35.

The specimens from the Karen Hills show little or no appearance of streaks on the hind neck. Birds from the Tonghoo Hills have some narrow yellow streaks on this part, and the Tenasserim ones are rather distinctly streaked with yellow or green.

*Hab.* Hills of Southern China, extending into the Burmese and Tenasserim Hills.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Karen Hills (*R. G. W. R.*). | Tweeddale Coll. |
| *c.* Ad. sk. | Karen Hills, Jan. 9 (*R. G. W. R.*). | Tweeddale Coll. |
| *d.* Ad. sk. | Karen Hills, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *e, f.* ♀ ad. sk. | Tonghoo Hills, April (*R. G. W. R.*). | Tweeddale Coll. |
| *g.* ♀ ad. sk. | Near Kollidoo, Feb. (*W. Davison*). | Hume Coll. |
| *h, i.* ♂ ♀ ad. sk. | Kyouknyat, Jan. (*W. Davison*). | Hume Coll. |
| *k.* ♂ ad. sk. | Thoungyeen River, Nov. 27 (*C. T. Bingham*). | Hume Coll. |
| *l.* ♀ ad. sk. | Myawadee, Jan. 17 (*W. Davison*). | Hume Coll. |
| *m.* ♀ ad. sk. | Foochow, China (*R. Swinhoe*). | Seebohm Coll. |
| *n.* ♂ ad. sk. | Tingchow, Dec. (*R. Swinhoe*). | Seebohm Coll. |

## 2. Megalæma marshallorum.

? Le Grand Barbu, *Levaill. Ois. d'Afr.* i. 1806, p. 55, pl. 20.
Bucco grandis, *Gould, Cent. Himal. B.* 1832, pl. 46.
Megalaima grandis, *Gray, List Gen. B.* App. 1842, p. 12; *Hume, Nests & Eggs Ind. B.* 1873, p. 128.
Megalaima virens (*nec Bodd.*), *Blyth, Cat. B. Mus. As. Soc.* 1849, p. 66; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. 1856, p. 636; *Moore, P. Z. S.* 1858, p. 475; *Jerd. B. Ind.* i. 1862, p. 308; *Goffin, Mus. Pays-Bas*, Buccones, 1863, p. 13; *Gray, List Capit. Brit. Mus.* 1868, p. 5; *id. Hand-l. B.* ii. 1870, p. 173, no. 8422.
Megalæma virens (*nec Bodd.*), *Irby, Ibis*, 1861, p. 229; *Beavan, Ibis*, 1865, p. 411; *Tytler, Ibis*, 1868, p. 201; *Pelz. t. c.* p. 320; *Beavan, Ibis*, 1869, p. 415; *Marshall, Monogr. Capit.* p. 33, pl. 16; *Salvin, Cat. Strickl. Coll.* 1882, p. 445.
Megalæma marshallorum, *Swinh. Ann. & Mag. Nat. Hist.* (4) vi. 1870, p. 348; *Jerd. Ibis*, 1872, p. 11; *Cock & Marshall, Str. F.* 1873, p. 350; *Brooks, Str. F.* 1875, p. 232; *Hume, Str. F.* 1879, p. 88; *Scully, t. c.* p. 250; *Marshall, Ibis*, 1884, p. 410; *Reid, Cat. Lucknow Mus.* 1886, p. 36; *Hume, Str. F.* xi. 1888, p. 66.

*Adult male.* General colour above brown with a ruddy tinge; scapulars like the back; lower back, rump, and upper tail-coverts grass-green, with paler green edges; wing-coverts like the back, those round the edges of the wing green or greenish blue, pale greenish towards the base; bastard-wing, primary-coverts, and

quills blackish, externally blue, the secondaries greener externally, the innermost bright bluish green, with a broad ending of orange-brown; tail-feathers green above, bluish below; crown of head deep blue, with a faintly-indicated shaft-stripe of lighter blue, more distinct on the nape; hind neck sulphur-yellow, streaked with paler yellow on the centre; lores, sides of the face, and ear-coverts black, washed with deep blue; cheeks and throat deep blue, the lower throat dark brown; sides of neck like the back; fore neck dark brown washed with greenish blue; centre of breast and abdomen prussian blue, the latter streaked with yellow; sides of the body and flanks streaked, the sides of the breast orange-brown with yellow edges to the feathers; the flanks green with greenish-yellow edges; thighs dusky brown, washed with yellow; under tail-coverts scarlet; under wing-coverts pale yellowish; edges of wing green; quills below dusky, pale yellow along the inner edge: "bill pale yellow, bluer at the tip of the upper mandible; legs and feet greenish grey" (*A. O. Hume, MSS.*): "bill horny greenish towards the tip; culmen from nares bluish black, darkest towards the tip; feet dingy horn-green; claws black; iris dark brown" (*J. Scully*).

*Young.* Similar to the adult, but with the colours everywhere more dingy, with only a few yellowish streaks on the hinder neck; the head and throat blackish washed with blue, with a few streaks of bright cobalt on the sides of the lower throat.

Specimens from the North-western Himalayas are paler in colour than those from Sikhim and the Eastern Himalayas, and the Manipur birds show a slight affinity to *M. virens* in their dark colouring and smaller amount of sulphur-yellow on the hind neck: the Manipur specimens, however, have the deep blue head of the Himalayan bird, and although the yellow streaks on the hind neck are somewhat tinged with green, there are many Himalayan specimens which exhibit this peculiarity.

*Hab.* Himalayas from Cashmere to Manipur.

| | | |
|---|---|---|
| *a.* Juv. sk. | India. | H. Drummond, Esq. [P.]. |
| *b, c.* Ad. sk. | Cashmere. | E. M. Langworthy, Esq. [P.]. |
| *d, e.* Ad. sk. | Cashmere (*Dr. Bellew*). | India Museum. |
| *f.* ♂ ad. sk. | Dhurmsala, May 1870 (*W. E. Brooks*). | Hume Coll. |
| *g.* Ad. sk. | Kotekhaie, Feb. 20. | Hume Coll. |
| *h.* Ad. sk. | Kotegurh. | Hume Coll. |
| *i.* Ad. sk. | Simla, March (*Dr. Scott*). | Tweeddale Coll. |
| *k.* Ad. sk. | Simla, May 8 (*R. C. Beavan*). | Tweeddale Coll. |
| *l.* ♀ ad. sk. | Simla, July (*R. C. Beavan*). | Tweeddale Coll. |
| *m, n.* ♂ ♀ ad. sk. | Simla, Sept. 10. | Hume Coll. |
| *o–r.* Ad. sk. | Hills north of Mussooree. | Hume Coll. |
| *s.* Ad. sk. | Rani Khet, July 12. | Hume Coll. |
| *t–w.* Ad. sk. | Almorah, Oct. | Hume Coll. |
| *x, y.* Ad.; *z.* Juv. sk. | Naini Tal. | Pinwill Coll. |
| *a'.* Ad. sk. | Kumaon (*Strachey*). | India Museum. |

| | | |
|---|---|---|
| *b'–e'*. Ad.; *f'*. Juv. sk. | Nepal. | Hodgson Coll. |
| *g'*, *h'*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *i'*. ♀ ad. sk. | Nepal Valley, May 21 (*J. Scully*). | Hume Coll. |
| *k'–r'*. Ad. sk. | Sikhim, Jan., Feb., March, May, Nov. (*L. Mandelli*). | Hume Coll. |
| *s'*. ♀ juv. sk. | Darjeeling (*Pearson*). | India Museum. |
| *t'–v'*. Ad. sk. | Darjeeling, Feb., March. | Hume Coll. |
| *w'*. Ad.; *x'*. Var. sk. | Mongphoo, March. | Hume Coll. |
| *y'*. ♂ ad.; *z'*. Ad. sk. | Bhotan (*Pemberton*). | India Museum. |
| *a*. Ad. sk. | Assam. | Tweeddale Coll. |
| *β*, *γ*, *δ*. Ad. sk. | Shillong, Aug., Oct. (*J. Cockburn*). | Hume Coll. |
| *ε*. Ad. sk. | Khasia Hills (*Griffith*). | India Museum. |
| *ζ*, *η*. ♂ ♀ ad. sk. | N. Khasia Hills, March, April (*A. W. Chennell*). | Tweeddale Coll. |
| *θ*, *ι*. ♂ ad. sk. | Aimole, Manipur, April (*A. O. H.*). | Hume Coll. |
| *κ*, *λ*. ♂ ♀ ad. sk. | Manipur, May (*A. O. H.*). | Hume Coll. |

## 12. CHOTORHEA.

Type.

Chotorhea, *Bp. Consp. Vol. Zygod.* p. 12 (1854)..... C. javensis.

*Range*. Throughout the Malayan Peninsula to Java, Sumatra, and Borneo.

*Key to the Species.*

*a*. With no yellow on cheeks; throat dark brown; no red or blue on head or face, which are brown like the throat ..... *corvina*, p. 56.

*b*. With yellow on cheeks.

*a'*. Throat dark crimson, lower throat black with a crimson spot on each side; head straw-yellow ..... *javensis*, p. 56.

*b'*. Throat ashy brown, becoming pale cobalt towards the fore neck; hinder crown scarlet, mottled with blue.

*a''*. Forehead brownish white ..... *chrysopogon*, p. 57.

*b''*. Forehead bright yellow like the cheeks .. *chrysopsis*, p. 59.

*c'*. Throat deep blue, as also the fore part of cheeks; hinder cheeks deep golden yellow; ear-coverts black; eyebrow blue; crown crimson ..... *versicolor*, p. 59.

### 1. Chotorhea corvina.

Bucco corvinus, *Temm. Pl. Col.* iii. pl. 522 (1831, *ex Reinw.*); *Hartl. Rev. Zool.* 1842, p. 337.

Megalaima corvina, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 144 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 30 (1863, pt.); *Gray, List Capit. Brit. Mus.* p. 12 (1868); *id. Hand-l. B.* ii. p. 175, no. 8454 (1870).

Megalæma corvina, *Bp. Consp. Vol. Zygod.* 1854, p. 12; *Marshall, Monogr. Capit.* p. 49, pl. 23 (1871); *Salvin, Cat. Strickl. Coll.* p. 446 (1882); *Nicholson, Ibis*, 1881, p. 142.

Chotorea corvina, *Vorderm. Tijdschr. Nederl. Ind.* xlv. p. 320 (1885).

*Adult male.* Grass-green, with a slight shade of blue on a few of the feathers of the upper parts: wing-coverts like the back, quills blackish, externally grass-green, with a slight blue shade on the outer web of some of them, the primaries yellowish towards the ends of the outer web; tail green, also shaded with blue; head brown, rather hoary in appearance and with a golden gloss, the hind neck golden yellow forming a collar; lores, sides of face, and throat dark brown, with a slight golden gloss, especially on the side of the fore neck; remainder of the under surface from the fore neck downwards dull emerald-green, with more or less of a bluish wash; under wing-coverts and quill-lining pale brown: "bill black, lead-colour at base; feet lead-colour with an ochre-yellow tint, claws dark horn-colour; iris vandyke-brown; skin of eye black" (*Vorderman*). Total length 10·3 inches, culmen 1·6, wing 4·8, tail 3·2, tarsus 1·2.

*Adult female.* Similar to the male in colour. Total length 10·5 inches, culmen 1·45, wing 4·8, tail 3·3, tarsus 1·25.

*Hab.* Java.

| | | |
|---|---|---|
| *a.* Ad. st. | Java. | Leyden Museum [P.]. |
| *b, c.* Ad. sk. | Java. | Tweeddale Coll. |
| *d, e.* ♂ ♀ ad. sk. | Java (*Mus. Lugd.*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | W. Java (*A. R. Wallace*). | Tweeddale Coll. |
| *g.* Ad. sk. | W. Java (*A. R. Wallace*). | Gould Coll. |
| *h.* Ad.; *i.* ♂ ad. sk. | W. Java. | Wallace Coll. |
| *k.* Skeleton. | Java. | Eyton Coll. |

### 2. Chotorhea javensis.

Le Barbu Kotorea, *Levaill. Ois. de Paradis*, Barbus, *Suppl.* p. 42, fig. C (1806).

Bucco javensis, *Horsf. Trans. Linn. Soc.* xiii. p. 181 (1820); *Hartl. Rev. Zool.* 1842, p. 337.

Bucco kotorea, *Temm. Pl. Col.* iii. *texte* Barbus (1831).

Bucco tristis, *Drap. Dict. Class. Hist. Nat.* ii. p. 195 (1822).

Megalaima javensis, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 19 (1863); *Gray, List Capit. Brit. Mus.* p. 5 (1868); *id. Hand-l. B.* ii. p 174, no. 8434 (1870).

Chotorhea javensis, *Bp. Consp. Volucr. Zygod.* p. 12 (1854).

Megalæma javensis, *Marshall, Monogr. Capit.* p. 43, pl. 20 (1871); *Vorderm. Nat. Tijdsch. Nederl. Ind.* xlvi. p. 70 (1886); *Nicholson, Ibis*, 1881, p. 142.

*Adult male.* Grass-green, a few feathers with a bluish shade; wing-coverts blue like the back; quills blackish, externally like the back, the primaries yellowish towards the ends of the outer webs; tail green above, bluish beneath; crown of the head pale golden yellow; hind neck and sides of the neck dark green, also washed with golden yellow; lores with a scarlet spot, surmounted by a line of black, extending above the eye and widening above the ear-coverts, the adjacent sides of the hinder crown and nape glossed with bright verditer-green; feathers below the eye black, extending downwards in a black band across the middle of the cheeks, the fore part of which is marked with a spot of bright yellow; hinder cheeks and ear-coverts emerald-green, glossed with golden yellow; throat deep crimson, the lower throat with a black spot; remainder of under surface of body light emerald-green, with a spot of scarlet on each side of the fore neck; under wing-coverts yellowish isabelline; quills light brown below, yellow along the inner web: "bill black; feet yellowish; iris dark vandyke-brown" (*Vorderman*). Total length 10·2 inches, culmen 1·55, wing 4·35, tail 2·6, tarsus 1·1.

*Adult female.* Similar to the male, but with the colours a trifle less bright. Total length 10 inches, culmen 1·5, wing 4·65, tail 2·6, tarsus 1·1.

*Hab.* Java.

| | | |
|---|---|---|
| *a.* Ad. st. | Java. | Purchased. |
| *b, c.* Ad.; *d.* Imm. sk. | Java (*Horsfield*). | India Museum. (Types of the species.) |
| *e.* Ad. sk. | Java. | Tweeddale Coll. |
| *f.* Ad. sk. | Java (*Mus. Lugd.*). | Salvin-Godman Coll. |
| *g, h.* ♂ ♀ ad. sk. | E. Java. | Wallace Coll. |
| *i.* ♂ ad. sk. | E. Java (*A. R. Wallace*). | Gould Coll. |

### 3. Chotorhea chrysopogon.

Bucco chrysopogon, *Temm. Pl. Col.* iii. 1824, p. 285; *Cuv. Règne Anim.* i. 1829, p. 458, note.

Megalaima chrysopogon, *Gray, Gen. B.* ii. 1846, p. 429; *Bp. Consp.* i. 1850, p. 143; *Moore, P. Z. S.* 1859, p. 454; *Goffin, Mus. Pays-Bas*, Buccones, 1863, p. 14; *Gray, List Capit. Brit. Mus.* 1868, p. 6; *id. Hand-l. B.* ii. 1870, p. 173, no. 8433; *Snellem. Midden-Sumatra, Vog.* 1888, p. 35.

Chotorhea chrysopogon, *Bp. Consp. Volucr. Zygod.* 1854, p. 12; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. 1856, p. 640; *Salvad. Ann. Mus. Civic. Genov.* xiv. 1879, p. 179.

Megalæma chrysopogon, *Scl. P. Z. S.* 1863, p. 206; *Marshall, Monogr. Capit.* p. 39, pl. 18 (1871); *Tweedd. Ibis*, 1877, p. 229; *Hume, Str. F.* 1879, p. 53; *Kelham, Ibis*, 1881, p. 389; *Nicholson, Ibis*, 1882, p. 58; *Salvin, Cat. Strickl. Coll.* 1882, p. 446; *Büttik. Notes Leyden Mus.* ix. 1887, p. 15.

Cyanops chrysopogon, *Stoliczka, J. A. S. B.* xxxix. pt. 2, 1870, p. 287.

Chotorea corvina (*nec Temm.*), *Beccari, Ann. Mus. Civ. Gen.* xiii. 1878, p. 452.

*Adult male.* General colour above green, the feathers edged with paler green; wing-coverts uniform grass-green; bastard-wing, primary-coverts, and quills blackish, externally green, the primaries yellowish towards the ends of the outer web; tail-feathers green; crown of the head scarlet, mottled with subterminal spots of pale cobalt on the hinder crown, occiput, and nape; forehead and sinciput hoary white, forming a broad band; a large loral spot of bright scarlet; feathers below the eye whitish; ear-coverts brown; cheeks pale golden yellow forming a broad moustache; throat pale whity brown, the lower throat pale purplish cobalt, becoming bright cobalt on the fore neck; remainder of the under surface of the body pale emerald-green; under wing-coverts yellowish, washed with emerald-green; quills below dusky, pale yellowish along the inner edge: "bill black; legs and feet glaucous green; iris pale buffy brown" (*W. Davison*). Total length 10·5 inches, culmen 1·8, wing 4·7, tail 2·85, tarsus 1·25.

*Adult female.* Similar to the male, but with the colours a little duller. Total length 10·5 inches, culmen 1·75, wing 5·1, tail 2·9, tarsus 1·35.

*Young.* Similar to adults, but with all the colours duller, the yellow moustache tinged with green. From a moulting specimen it would appear that the feathers of the frontal band, when first assumed, are yellowish, and they must therefore fade into hoary white with age. The new plumes on the throat itself also seem to be purplish cobalt at first, and it is probable that they soon bleach to the whitish colour of the adults.

*Hab.* Malayan Peninsula and Sumatra.

| | | |
|---|---|---|
| *a.* Ad. sk. | Penang. | Gould Coll. |
| *b.* ♂ ad. sk. | Klang, Salangore, April 13 (*W. Davison*). | Hume Coll. |
| *c.* ♀ ad. sk. | Klang, Sept. 14 (*W. Davison*). | Hume Coll. |
| *d, e.* ♂ ♀ ad. sk. | Langhat, April (*W. Davison*). | Hume Coll. |
| *f.* Ad. sk. | Malacca. | Wallace Coll. |
| *g.* Ad. sk. | Malacca. | Pinwill Coll. |
| *h, i.* Ad.; *k.* Juv. sk. | Malacca (*R. G. W. R.*). | Tweeddale Coll. |
| *l.* Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *m–o.* Ad.; *p.* Juv. sk. | Malacca, July (*W. Davison*). | Hume Coll. |
| *q.* Ad. sk. | Malacca, Sept. (*W. Davison*). | Hume Coll. |
| *r.* Ad. sk. | Malacca, Aug. 3 (*R. G. W. R.*). | Tweeddale Coll. |
| *s.* Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *t.* Ad. st. | Sumatra. | Old Coll. |
| *u–y.* Ad. sk. | Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *z.* ♂ ad. sk. | Mt. Sago, Sumatra, Sept. (*Carl Bock*). | Tweeddale Coll. |
| *a', b'.* Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |

### Subsp. α. Chotorhea chrysopsis.

Bucco chrysopogon (*nec Temm.*), *Low, Sarawak*, 1848, p. 411.
Megalaima chrysopsis, *Goffin, Mus. Pays-Bas*, Buccones, 1863, p. 15; *Gray, List Capit. Brit. Mus.* 1868, p. 6; *id. Hand-l. B.* ii. 1870, p. 175, no. 8462.
Megalæma chrysopsis, *Sclat. P. Z. S.* 1863, p. 210; *Marshall, Monogr. Capit.* p. 37, pl. 17 (1871); *Salvad. Ucc. Born.* 1874, p. 32; *Sharpe, Ibis*, 1877, p. 8; *Nicholson, Ibis*, 1883, p. 87; *Sharpe, Ibis*, 1890, p. 4.

If Marshall's plate is correct and the adult bird has such a bright yellow forehead, then the species would be distinct; but so far as the specimen in the Museum is concerned, it can be matched by similar young birds from Malacca: "bill black; legs lead-colour, tinged with green; iris warm brown" (*A. Everett*).

*Hab.* Borneo.

*a*. ♂ juv. Foot of Matang, Sarawak (*A. Everett*). Tweeddale Coll.

### 4. Chotorhea versicolor.

Bucco versicolor, *Raffl. Trans. Linn. Soc.* xiii. p. 284 (1820); *Temm. Pl. Col.* iii. pl. 309 (1825); *Blyth, J. A. S. Beng.* xv. p. 13 (1846).
Bucco rafflesii, *Less. Rev. Zool.* 1839, p. 137.
Megalaima versicolor, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Motley & Dillw. Nat. Hist. Labuan*, p. 28 (1855); *Moore, P. Z. S.* 1859, p. 454; *Goffin, Mus. Pays-Bas*, Buccones, p. 15 (1863); *Gray, List Capit. Brit. Mus.* p. 6 (1868); *id. Hand-l. B.* ii. p. 174, no. 8435 (1870).
Megalæma (Chotorhea) versicolor, *Bp. Consp. Vol. Zygod.* p. 12 (1854).
Chotorhea versicolor, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 640 (1856); *Salvad. Ucc. Borneo*, p. 33 (1874).
Megalæma versicolor, *Scl. P. Z. S.* 1863, p. 210; *Marshall, Monogr. Capit.* p. 47, pl. 22 (1871); *Sharpe, P. Z. S.* 1875, p. 105; *id. Ibis*, 1876, p. 35; *Tweedd. Ibis*, 1877, p. 299; *Sharpe, Ibis*, 1879, p. 239; *id. P. Z. S.* 1879, pp. 245, 326; *Hume, Str. F.* 1879, pp. 53, 83; *Sharpe, P. Z. S.* 1888, p. 280; *id. Ibis*, 1890, p. 4.
Cyanops versicolor, *Oates, Handb. B. Brit. Burm.* ii. p. 136 (1883).
Megalæma versicolor, var. borneensis, *Blasius, Verh. z.-b. Ges. Wien*, xxxiii. p. 25 (1883).

*Adult male.* General colour above grass-green; wing-coverts like the back; bastard-wing, primary-coverts, and quills blackish, externally a little darker green than the back, the secondaries resembling the latter; tail-feathers green above, blue below; crown of head, occiput, and nape rich scarlet; hind neck and sides of neck a little brighter green than the back; lores black; a broad eyebrow of rich cobalt-blue; sides of the face and ear-coverts black; below the eye a crimson spot; hinder cheeks golden yellow, fore part of cheeks and throat cobalt-blue, with silvery blue shaft-streaks; remainder of under surface yellowish green, with a golden gloss; on each side of the fore neck a large spot of scarlet; under wing-coverts isabelline, washed with green; quills below dusky, yellowish isabelline

along the inner edges: "bill black; feet greenish slate-colour; iris bright brown" (*R. G. Wardlaw Ramsay*). Total length 10 inches, culmen 1·6, wing 4·8, tail 2·7, tarsus 1·15.

*Adult female.* Similar to the male. Total length 10 inches, culmen 1·6, wing 4·6, tail 2·5, tarsus 1·1.

*Young.* Similar to the adults, but everywhere duller: none of the bright parts strongly marked, the yellow moustache scarcely evident, and the scarlet spot below the eye absent; the lower mandible pale towards the base.

The differences set forth by Professor Blasius for the separation of the Bornean bird from the Malayan are not found to be permanent in the series in the British Museum. The widening of the red crown on the nape is found alike in birds from both countries, and the shade of colour in the blue of the throat and eyebrow is equally variable.

*Hab.* Malayan Peninsula, Sumatra, and Borneo.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Batang Padang, Perak. | L. Wray, Esq. [P.]. |
| *b*. Ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| *c*. ♀ ad. sk. | Salangore, March 19 (*W. Davison*). | Hume Coll. |
| *d*–*k*. ♂; *l*, *m*, *n*. ♀ ad. sk. | Klang, Feb.–April, July, Sept. (*W. Davison*). | Hume Coll. |
| *o*–*w*. Ad.; *x*. Juv. sk. | Malacca, July to Sept. (*W. Davison*). | Hume Coll. |
| *y*–*c'*. ♂ ad.; *d'*, *e'*, *f'*. ♀ ad. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *g'*. Ad.; *h'*. Juv. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *i'*, *k'*. Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *l'*. ♂ ad. sk. | Malacca (*A. R. Wallace*). | Gould Coll. |
| *m'*. Juv. sk. | Malacca. | Purchased. |
| *n'*–*s'*. ♂; *t'*, *u'*. ♀ ad. sk. | Johore, March to Aug., Sept. (*W. Davison*). | Hume Coll. |
| *v'*. Ad. sk. | Singapore. | Hume Coll. |
| *w'*. Ad. sk. | Sumatra (*Raffles*). | India Museum. (Type of species.) |
| *x'*. ♂ ad. sk. | Sumatra. | Wallace Coll. |
| *y'*, *z'*. ♂ ad. sk. | Siedjoendjong, Sumatra, Sept. (*Carl Bock*). | Tweeddale Coll. |
| *a''*–*ε''*. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *ζ''*, *η''*. Ad.; *θ''*. Imm. sk. | Billiton. | Tweeddale Coll. |
| *ι''*. Ad. sk. | Kina Balu, N.W. Borneo (*F. Burbidge*). | H. Veitch, Esq. [P.]. |
| *κ''*. Ad. sk. | Labuan (*Sir H. Low*). | R. B. Sharpe, Esq. |
| *λ''*. Ad. sk. | Lumbidan (*Sir H. Low*). | Tweeddale Coll. |
| *μ''*. ♂ ad. sk. | Busan, Sarawak, Oct. (*A. Everett*). | Salvin-Godman Coll. |
| *ν''*. ♀ ad. sk. | Busan, Sarawak, Oct. (*A. Everett*). | Tweeddale Coll. |
| *ξ''*, *o''*. Ad. sk. | Sarawak. | Rajah Brooke [P.]. |
| *π''*. Ad. sk. | Banjarmassing (*J. Motley*). | Tweeddale Coll. |

## 13. CYANOPS.

Type.
Cyanops, *Bp. Consp. Vol. Zygod.* p. 12 (1854)..... C. asiatica.

*Range.* Indian Peninsula and Ceylon, throughout Cochin-China and the Burmese countries, and the Malayan Peninsula to Java, Sumatra, and Borneo; Hainan and Formosa.

*Key to the Species.*

*a*. With bright colours on the head—red, blue, green, or yellow.
*a'*. With blue on the throat, no yellow.
*a''*. Forehead scarlet like the crown.
*a'''*. Band across the crown black..... *asiatica*, p. 62.
*b'''*. Band across the crown blue ..... *davisoni*, p. 65.
*b''*. Forehead yellow like the crown; eyebrow and feathers below the eye pale blue like the throat; cheeks yellow.. *flavifrous*, p. 65.
*c''*. Forehead yellow; hinder crown blue.
*c'''*. Throat green, followed by a golden necklace ..... *armillaris*, p. 66.
*d'''*. Throat light blue; round the hind neck a red collar ..... *henrici*, p. 67.
*d''*. Forehead green mottled with blue.
*e'''*. With a scarlet loral spot and nape-patch; two black streaks on side of head ..... *incognita*, p. 68.
*f'''*. With no scarlet and no black streak on the head ..... *pulcherrima*, p. 69.
*b'*. With yellow on the throat.
*e''*. With scarlet across the forehead, followed by yellow on the crown, and then by a scarlet nape-spot; throat yellow.
*g'''*. The yellow throat followed by hoary grey, like the sides of the face; no scarlet spot on sides of fore neck.
*g*⁴. Eyebrow black ..... *franklini*, p. 69.
*h*⁴. Eyebrow hoary grey, black on each side of the red nape-spot only ..... *ramsayi*, p. 70.
*h'''*. The yellow throat followed by blue, with a red spot on each side of the fore neck ..... *oorti*, p. 71.
*f''*. With yellow across the forehead; hinder crown scarlet; throat scarlet, blue on fore neck; a blue spot below the eye and a yellow spot on the fore part of the cheeks ..... *mystacophanes*, p. 72.
*g''*. Forehead greenish or yellowish green.
*i'''*. Lores yellowish green; no red loral spot ..... *monticola*, p. 74.

*k'''*. With a red loral spot.
*i*⁴. Crown of head blue like the sides of face, hinder cheeks, and lower throat, followed by scarlet on the fore neck ..... *nuchalis*, p. 74.
*k*⁴. Crown of head with a scarlet patch; sides of face green, with a little blue below the eye and on the lower throat ..... *mystacophanes* juv., [p. 72.
*h''*. Forehead black like the crown, with a scarlet patch; sides of face and lower throat cobalt-blue, followed by scarlet. *faber*, p. 75.
*c'*. With a green throat like rest of upper surface; forehead blue; head brown; nasal plumes and under tail-coverts red . *lagrandieri*, p. 75.
*b*. With no bright colours on the head, which is brown, mottled with ashy or streaked with white; general colour green, streaked below.
*d'*. With a streak of golden yellow along the ear-coverts and a scarlet spot on each side of the fore neck ..... *phæostriata*, p. 76.
*e'*. With no yellow streak on sides of face and no scarlet spot on sides of the fore neck.
*i''*. With ashy tips to the wing-coverts.
*l'''*. Smaller and slightly brighter ..... *zeylonica*, p. 76.
*m'''*. Larger and less bright ..... *caniceps*, p. 77.
*k''*. Without ashy tips to wing-coverts.
*n'''*. Larger; back centred with yellowish-white streaks to the feathers; head mottled with ashy tips to the feathers..... *lineata*, p. 80.
*o'''*. Smaller; back uniform green, not streaked; head uniform brown, not mottled with ashy tips ..... *viridis*, p. 83.

## 1. Cyanops asiatica.

Blue-cheeked Curucui, *Lath. Gen. Syn. Suppl.* 1787, p. 93.
Trogon asiaticus, *Lath. Ind. Orn.* 1790, p. 201.
Le Barbu à gorge bleue, *Levaill. Ois. de Paradis &c.* Barbus, 1806, p. 57, pls. 21, 22.
Bucco cæruleus, *Dumont, Dict. Sci. Nat.* iv. 1816, p. 48.
Capito cyanocollis, *Vieill. Nouv. Dict.* iv. 1816, p. 498.
Bucco cyanops, *Cuv. Règne Anim.* i. 1817, p. 428; *McClell. P. Z. S.* 1839, p. 165.
Bucco cyanicollis, *Temm. Pl. Col.* iii. 1831, *texte genre Barbu*; *Hartl. Rev. Zool.* 1842, p. 337; *Sundev. Ann. & Mag. Nat. Hist.* xviii. 1846, p. 398.
Megalaima asiatica, *Gray, Gen. B.* ii. 1846, p. 429; *id. Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 114; *Blyth, Cat. B. Mus. As. Soc.* 1849, p. 67; *Bp. Consp.* i. 1850, p. 143; *Tytler, Ann. & Mag. Nat. Hist*, new series, xiii. 1854, p. 367; *Goffin, Mus. Pays-Bas*, Buccones, 1863, p. 16; *Gray, List Capit. Brit. Mus.* 1868, p. 8; *id. Hand-l. B.* ii. 1870, p. 174, no. 8442.

Bucco asiaticus, *Blyth, J. A. S. Beng.* xv. 1846, p. 13; *id. Ann. & Mag. Nat. Hist.* xx. 1847, p. 385; *Tickell, J. A. S. Beng.* xvii. pt. 1, 1848, p. 298.

Bucco cæruleigula, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 322. fig. 1 (no. 171); *id. in Gray's Zool. Misc.* 1844, p. 85.

Cyanops asiatica, *Bp. Consp. Volucr. Zygod.* 1854, p. 12; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. 1856, p. 640; *Jerd. B. Ind.* i. 1862, p. 313; *Blyth & Wald. B. Burm.* 1875, p. 73; *Beavan, Ibis*, 1865, p. 412; *Blyth, Ibis*, 1867, p. 297, note; *Hume, Nests & Eggs Ind. B.* 1873, p. 131; *id. Str. F.* 1874, p. 472; *id. & Oates, Str. F.* 1875, p. 77; *Brooks, Str. F.* 1875, p. 232; *Oates, Handb. B. Brit. Burm.* ii. 1883, p. 133.

Megalæma asiatica, *Tytler, Ibis*, 1868, p. 201; *Marshall, Monogr. Capit.* 1870, p. 63, pl. 29; *Blyth & Wald. B. Burm.* 1875, p. 73; *Hume, Str. F.* 1877, p. 27; *Wardlaw Ramsay, Ibis*, 1877, p. 457; *Anderson, Zool. Exped. Yunnan*, 1878, p. 584; *Hume & Davison, Str. F.* vi. 1875, p. 151; *Hume, Str. F.* 1879, p. 88; *Scully, t. c.* p. 252; *Oates, Str. F.* x. 1882, p. 192; *Salvin, Cat. Strickl. Coll.* 1882, p. 446; *C. H. T. Marshall, Ibis*, 1884, p. 410; *Reid, Cat. Lucknow Mus.* 1886, p. 38.

*Adult male.* General colour above light grass-green; wing-coverts like the back; bastard-wing, primary-coverts, and quills rather deeper grass-green, the secondaries like the back, the primaries externally yellowish towards the ends; tail-feathers green above, blue below; crown of the head scarlet, as well as the occiput and nape; across the vertex a black band, preceded by an ill-defined yellowish line before the forehead, which is scarlet, as well as the lores; the black band continued backwards above the eyebrow, which is bright cobalt like the feathers round the eye, the sides of the face, ear-coverts, cheeks, and throat; sides of the neck yellowish green like the rest of the under surface of the body from the fore neck downwards; on each side of the fore neck a large spot of scarlet; under wing-coverts yellowish isabelline; quills below dusky brown, yellowish along the inner edge: "bill greenish yellow horny, black above; margins of eyelids orange; iris hazel-brown, brown, or reddish brown; feet dingy green; claws horny black" (*J. Scully*). Total length 8·3 inches, culmen 1·1, wing 4·2, tail 2·75, tarsus 1·1.

*Adult female.* Similar to the male. Total length 8·5 inches, culmen 1·1, wing 4·1, tail 2·7, tarsus 1·05.

*C. asiatica* has an almost imperceptible spot of scarlet at the base of the lower mandible. Several specimens from its eastern range show a slight trace of blue over the black crown, although never to the same extent as in *C. davisoni*.

*Hab.* The Himalayas from Cashmere eastward to the Burmese countries and Northern Tenasserim, occurring also in Dacca and near Calcutta.

| | | | |
|---|---|---|---|
| *a.* Ad. sk. | Kangra (*S. Pinwill*). | Tweeddale Coll. |
| *b.* Ad. sk. | Dhurmsala, Cashmere, April (*W. E. Brooks*). | Hume Coll. |
| *c, d.* Ad. sk. | N.W. Himalayas. | Pinwill Coll. |

| | | |
|---|---|---|
| *e, f.* Ad. sk. | Mussoorie. | Hume Coll. |
| *g.* Ad. sk. | Between Dhunda and Dras, May 27 (*W. E. Brooks*). | Hume Coll. |
| *h.* Ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *i, k.* ♂ ♀ ad. sk. | Sewalik Hills, March (*Dr. Scott*). | Tweeddale Coll. |
| *l.* Ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *m–q.* Ad. sk. | Almorah. | Hume Coll. |
| *r.* Ad. sk. | Nepal. | Hodgson Coll. (Type of *B. cæruleigula*.) |
| *s.* Ad. sk. | Nepal. | Hodgson Coll. |
| *t, u, v.* Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *w, x, y.* Ad. sk. | Nepal Valley, April, May, Dec. (*J. Scully*). | Hume Coll. |
| *z.* Ad. sk. | Native Sikhim, Nov. (*L. Mandelli*). | Hume Coll. |
| *a'–d'.* Ad.; *e'.* Juv. sk. | Sikhim, April, June (*L. Mandelli*). | Hume Coll. |
| *f'–m'.* Ad.; *n'.* Juv. sk. | Darjeeling, Feb., March. | Hume Coll. |
| *o', p'.* Ad. sk. | Buxa Dooars, Jan. (*L. Mandelli*). | Hume Coll. |
| *q', r.* Ad. sk. | Assam (*McClelland*). | India Museum. |
| *s'.* ♂ ad. sk. | Shillong, July (*A. W. Chennell*). | Tweeddale Coll. |
| *t', u'.* ♂ ♀ ad.; *v'.* ♀ imm. sk. | Shillong, July, Oct. (*J. Cockburn*). | Hume Coll. |
| *w'.* Imm. sk. | Shillong, Dec. (*W. Davison*). | Hume Coll. |
| *x', y'.* ♂ ad.; *z', a''.* ♀ ad. sk. | Tippook, March, April (*J. Cockburn*). | Hume Coll. |
| *b'', c''.* Ad. sk. | Dollah, April (*J. Cockburn*). | Hume Coll. |
| *d''–i''.* ♂; *k'', l''.* ♀ ad. sk. | Dibrughur, March to June, Dec. (*J. R. Cripps*). | Hume Coll. |
| *m''–p''.* Ad. sk. | Khasia Hills, Nov., Dec. (*A. W. Chennell*). | Tweeddale Coll. |
| *q''–u''.* Ad. sk. | Manipur, Feb., May (*A. O. H.*) | Hume Coll. |
| *v''.* ♂ ad.; *w''–y''.* ♀ ad. sk. | Calcutta, Dec., Feb. | Hume Coll. |
| *z''.* Ad. sk. | Dacca. | Hume Coll. |
| *α.* ♀ ad. sk. | Arakan Hills, Jan. (*E. W. Oates*). | Hume Coll. |
| *β.* ♀ ad. sk. | E. Pegu Hills, April 22 (*E. W. Oates*). | Hume Coll. |
| *γ, δ.* ♂ ad.; *ε, ζ.* ♀ ad. sk. | Tonghoo, March, April (*R. G. W. R.*). | Tweeddale Coll. |
| *η–π.* Ad. sk. | Karen Hills, Jan., April, Aug., Oct., Nov. (*R. G. W. R.*). | Tweeddale Coll. |
| *ρ.* ♂ ad. sk. | Tsankoo Hills, April 4 (*R. G. W. R.*). | Tweeddale Coll. |
| *σ.* ♂ ad. sk. | Kachin Hills, Feb. 13. | Dr. J. Anderson [C.]. |
| *τ.* ♀ ad. sk. | Pahpoon, Jan. 4 (*W. Davison*). | Hume Coll. |
| *υ, φ.* ♂ ad. sk. | Kollidoo, Feb. 2 (*W. Davison*). | Hume Coll. |

## 2. Cyanops davisoni. (Plate IV. fig. 1.)

Megalaima davisoni, *Hume, Str. F.* v. 1877, p. 108.
Megalæma davisoni, *Hume & Davison, Str. F.* vi. 1878, p. 151; *Hume, Str. F.* viii. 1879, p. 88; *Bingham, Str. F.* ix. 1880, p. 165; *Salvad. Ann. Mus. Civ. Gen.* (2) v. 1888, p. 562.
Cyanops davisoni, *Oates, Handb. B. Brit. Burm.* ii. 1883, p. 134.

*Adult male.* Similar to *C. asiatica*, but smaller, and distinguished by the band across the vertex, which is verditer-blue instead of black; above the blue eyebrow a line of black, widening out above the ear-coverts. Total length 8·25 inches, culmen 1, wing 3·7, tail 2·4, tarsus 1·05.

*Adult female.* Similar to the male. Total length 7·5 inches, culmen 0·95, wing 2·6, tail 2·25, tarsus 1·05.

*Hab.* Replaces the foregoing species in Central Tenasserim.

| | | |
|---|---|---|
| *a–c.* ♀ ad. sk. | Thenganee Sakan, Jan. (*W. Davison*). | Hume Coll. |
| *d–h.* ♂ ad.; *i–n.* ♀ ad. et juv. sk. | Thoungya, Sept., Oct. (*J. Darling*). | Hume Coll. |
| *o.* ♂ ad. sk. | Assoon, Feb. 2 (*W. Limborg*). | Tweeddale Coll. |
| *p.* ♀ ad. sk. | Meplay, March 16 (*C. T. Bingham*). | Hume Coll. |
| *q, r.* ♂ ad.; *s.* ♀ ad. sk. | Houngthraw River, Feb. (*W. Limborg*). | Tweeddale Coll. |
| *t–w.* ♂ ad. sk. | Meetan, Feb. (*W. Davison*). | Hume Coll. |

## 3. Cyanops flavifrons.

Le Barbu à front d'Or, *Levaill. H. N.* Barbus, p. 129, pl. 55 (1806).
Bucco flavifrons, *Cuvier, Règne Anim.* i. p. 428, note (1817).
Bucco aurifrons, *Temm. Pl. Col.* iii. *texte genre* Barbu, esp. 12 (1831).
Megalaima flavifrons, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Kelaart, Prodr. Cat.* p. 127 (1852); *Layard, Ann. & Mag. Nat. Hist* (2) xiii. p. 447 (1854); *Goffin, Mus. Pays-Bas*, Buccones, p. 23 (1863); *Gray, List Capit. Brit. Mus.* p. 8 (1868); *id. Hand-l. B.* ii. p. 174, no. 8444 (1870); *Holdsw. P. Z. S.* 1872, p. 429; *Layard, P. Z. S.* 1873, p. 204.
Cyanops flavifrons, *Jerd. B. Ind.* i. p. 314 (1862); *Blyth, Ibis*, 1867, p. 297; *Legge, Ibis*, 1874, p. 15.
Megalæma flavifrons, *Marshall, Monogr. Capit.* p. 69, pl. 30 (1871); *Hume, Str. F.* vii. p. 370 (1878), 1879, p. 88; *Legge, B. Ceylon*, p. 212, pl. 10. fig. 2 (1879).

*Adult male.* General colour above dark grass-green; wing-coverts a little deeper green than the back; bastard-wing, primary-coverts, and quills blackish, externally green, the primaries edged with yellow near the end of the outer web; tail-feathers green above, blue below; crown of head dusky greenish, with shaft-streaks of golden yellow; the hind neck, upper mantle, and sides of neck green with greenish-white longitudinal centres to the

feathers, much broader on the latter; forehead and sinciput golden yellow; lores, eyebrow, feathers round eye, sides of face, and ear-coverts cobalt-blue; fore part of cheeks golden yellow; hinder cheeks bluish green, with white centres to the feathers; throat light cobalt-blue, remainder of under surface of the body very pale green, the fore neck and chest having the feathers edged with emerald-green, producing a scaly appearance; under wing-coverts yellowish isabelline washed with green; quills below dusky, yellow along the inner edges: "bill greenish horny, slightly dusky at base of culmen, lower mandible paler; tarsus and feet sickly green, the tarsi in some bluish, soles yellow; claws dusky; iris light red or pale brownish red, a pale outer circle often present" (*W. V. Legge*). Total length 8·5 inches, culmen 0·85, wing 3·5, tail 2·25, tarsus 0·9.

*Adult female.* Similar to the male in colour. Total length 8 inches, culmen 0·95, wing 3·55, tail 2·3, tarsus 0·95.

*Hab.* Ceylon.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Ceylon. | T. Thwaites, Esq. [C.]. |
| *c.* Ad. sk. | Ceylon. | Gould Coll. |
| *d–i.* Ad. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *k–m.* ♂; *n, o.* ♀ ad. sk. | Ceylon, Jan., April (*S. Chapman*). | Tweeddale Coll. |
| *p.* Ad. sk. | Nuwara Eliya. | E. Boate, Esq. [C.]. |
| *q.* Ad. sk. | Kandy. | Hume Coll. |
| *r.* ♀ ad. sk. | South Ceylon, Aug. 20. | Hume Coll. |
| *s.* ♂ ad. sk. | Western Province, Ceylon, July 21. | Colonel Legge [P.]. |
| *t.* Ad. sk. | Central Province. | Colonel Legge [P.]. |
| *u.* ♀ ad. sk. | Opate Forests, Ceylon, April 25 (*W. V. Legge*). | Seebohm Coll. |

### 4. Cyanops armillaris.

Bucco armillaris, *Temm. Pl. Col.* iii. pl. 89. fig. 1 (1824); *Cuv. Règne Anim.* p. 458 (1829); *Hartl. Rev. Zool.* 1842, p. 337.

Megalaima armillaris, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 22 (1863); *Gray, List Capit. Brit. Mus.* p. 7 (1868): *id. Hand-l. B.* ii. p. 174, no. 8438 (1870); *Vorderm. Tijdschr. Nederl. Ind.* xlv. p. 319 (1885).

Megalæma armillaris, *Marshall, Monogr. Capit.* p. 61, pl. 28 (1871); *Nicholson, Ibis*, 1881, p. 142.

*Adult male.* General colour above dark grass-green; wing-coverts like the back; bastard-wing, primary-coverts, and quills blackish, externally like the back, the primaries yellowish along the ends of their outer web; tail-feathers green above, bluish below; centre of the crown and occiput cobalt-blue; nape and hind neck green, with a spot of golden yellow on each side of the latter; forehead and sinciput brilliant orange-yellow; base of the forehead and lores black; eyebrow, feathers round eye, sides of face, ear-coverts, cheeks, and under surface of body emerald-green; across

the fore neck a collar of bright orange-yellow; under wing-coverts yellowish isabelline, washed with green; quills below dusky yellowish along the inner edge: "bill black, lead-colour at the base; legs lead-coloured, with an ochre-yellow tint; claws black; iris dark vandyke-brown" (*Dr. Vorderman*). Total length 7·5 inches, culmen 0·95, wing 3·65, tail 2·3, tarsus 0·95.

*Adult female.* Similar to the male. Total length 7 inches, culmen 0·9, wing 3·5, tail 2·3, tarsus 0·9.

*Hab.* Java.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Petjet, Java, Oct. (*Mus. Lugd.*). | Gould Coll. |
| *b, c.* ♂ ♀ ad. sk. | Java (*Mus. Lugd.*). | Salvin-Godman Coll. |
| *d, e.* Imm. sk. | Java. | Tweeddale Coll. |
| *f.* Ad. sk. | W. Java (*A. R. Wallace*). | Tweeddale Coll. |
| *g.* ♂ ad.; *h, i.* Ad. sk. | W. Java. | Wallace Coll. |
| *k.* Ad. st. | Java. | Purchased. |

### 5. Cyanops henrici.

Bucco henricii, *Temm. Pl. Col.* iii. pl. 524 (1831); *Boie, Brief. Ost-Ind.* no. 15 (1832).
Bucco moluccensis, *Hartl. Rev. Zool.* 1842, p. 336.
Bucco armillaris, *Blyth, J. A. S. Beng.* xv. p. 13 (1846).
Megalaima moluccensis, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 144 (1850).
Megalaima oorti, *Gray, Gen. B.* ii. p. 429 (1846).
Megalaima armillaris (*nec T.*), *Blyth, Cat. B. Mus. As. Soc.* p. 67 (1849).
Megalaima henricii, *Bp. Consp.* i. p. 143 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 21 (1863); *Gray, List Capit. Brit. Mus.* p. 7 (1868); *id. Hand-l. B.* ii. p. 174, no. 8437 (1870).
Cyanops henricii, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 643 (1856).
Megalæma henricii, *Marshall, Monogr. Capit.* p. 71, pl. 31 (1871); *Sharpe, Ibis*, 1879, p. 239; *Hume, Str. F.* 1879, pp. 53, 88; *Salvin, Cat. Strickl. Coll.* p. 446 (1882); *Büttik. Notes Leyden Mus.* ix. p. 15 (1886).

*Adult male.* Similar to *C. armillaris*, and having a similar orange-yellow crown with a blue vertex and occiput, the yellow continued in a broad band along the sides of the crown; feathers above the eye, sides of face, sides of neck, and hind neck green, the latter separated from the back by a distinct collar of bright vermilion; throat light cobalt-blue, with an orange spot on each side of the fore neck, instead of the orange colour of *C. armillaris*: "bill black; legs and feet glaucous green, claws dark greenish horny; iris dark brown" (*W. Davison*). Total length 8·75 inches, culmen 1, wing 3·8, tail 2·1, tarsus 1.

*Adult female.* Similar to the male, but not quite so brightly coloured: "bill black; legs slaty green; iris brown" (*R. G. Wardlaw Ramsay*). Total length 8·7 inches, culmen 1·1, wing 3·9, tail 2·2, tarsus 0·85.

*Young.* Nearly entirely green, save for a little blue on the throat and a slight tinge of golden yellow on the forehead; lores black; cheeks lighter and more emerald-green. The yellow spot on the sides of the fore neck seems to be developed very early.

*Hab.* Malayan Peninsula, Sumatra, and Borneo.

| | | |
|---|---|---|
| *a.* Ad. sk. | Penang. | Wallace Coll. |
| *b.* Ad. sk. | Mountain of Perak. | L. Wray, Esq. [P.]. |
| *c–h.* ♂ ad. et juv.; *i, k.* ♀ ad. sk. | Klang, Jan. to March, July (*W. Davison*). | Hume Coll. |
| *l–q.* Ad.; *r, s.* Juv. sk. | Malacca, Jan., July (*W. Davison*). | Hume Coll. |
| *t.* ♀ ad. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *u.* Ad. sk. | Malacca, Nov. (*Dr. Maingay*). | Tweeddale Coll. |
| *v.* ♂ ad. sk. | Malacca (*A. R. Wallace*). | Tweeddale Coll. |
| *w, x.* ♂ ad. sk. | Malacca. | Wallace Coll. |
| *y.* Juv. sk. | Malacca. | Purchased. |
| *z–e″.* ♂ ♀ ad. sk. | Johore, March, Aug. (*W. Darison*). | Hume Coll. |
| *f″, g″.* Ad. sk. | Singapore. | Hume Coll. |
| *h″.* Ad. sk. | Sumatra. | E. Wilson, Esq. [P.]. |
| *i″, k″.* Ad. st. | Sumatra. | Purchased. |
| *l″.* ♂ ad. sk. | Sarawak (*A. R. Wallace*). | Tweeddale Coll. |
| *m″.* Ad. sk. | Sarawak (*H. Everett*). | Tweeddale Coll. |

### 6. Cyanops incognita. (Plate IV. fig. 3.)

Megalaima incognita, *Hume, Str. F.* 1874, pp. 442, 486; *Wald. in Blyth's B. Burm.* p. 74 (1875).

Megalæma incognita, *Hume & Davison, Str. F.* vi. 1878, pp. 151, 501; *Hume, Str. F.* 1879, p. 88; *Bingham, t. c.* p. 194, ix. 1880, p. 166.

Cyanops incognita, *Oates, Handb. B. Brit. Burm.* ii. p. 134 (1883).

*Adult male.* General colour above emerald-green, with a distinct gloss on the mantle and scapulars; wing-coverts a little darker than the back; bastard-wing, primary-coverts, and quills blackish, externally green like the back: the primaries yellowish near the end of the outer web; tail-feathers green above, bluish below; crown of head bright emerald-green, a little bluer on the sides of the crown; an occipital spot of scarlet: extreme base of forehead and lores scarlet; feathers below and round the eye bright emerald-green washed with blue, with a black band from the base of the lower mandible; eyelids yellow; cheeks and ear-coverts emerald-green, the latter surmounted by a short band of blue; under surface of the body pale green, brighter and washed with blue on the throat and fore neck: on the sides of the lower throat a spot of scarlet; under wing-coverts yellowish isabelline; quills below dusky, yellowish along the inner edge: "upper mandible, eyelids, and tip of lower mandible dusky horny; remainder of bill paler; legs and feet grass-green; iris nut-brown" (*W. Davison*). Total length 7·3 inches, culmen 1·05, wing 3·8, tail 2·15, tarsus 0·9.

*Adult female.* Similar to the male, but scarcely so bright, and having the occipital spot rather smaller. Total length 7 inches, culmen 1, wing 3·7, tail 2·15, tarsus 0·95.

*Young.* Like the adult, but with a pale base to the brown mandible; the scarlet on the lores feebly developed; the scarlet occipital spot absent; the spot on each side of the lower throat represented by a faint mark of orange-yellow.

*Hab.* Central Tenasserim.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Near Myawadee, April 21 (*C. T. Bingham*). | Hume Coll. |
| *b, c.* ♂ ad. sk. | Amherst, July 19 (*W. Davison*). | Hume Coll. |
| *d–f.* ♂; *g.* ♀ ad. sk. | Near Tavoy, April (*W. Davison*). | Hume Coll. |

### 7. Cyanops pulcherrima.

Megalæma pulcherrima, *Sharpe*, *Ibis*, 1888, p. 393, pl. ii. fig. 2.

*Adult.* Similar to *C. incognita*, but differs in the absence of the red on the head and lower throat, and the nearly uniform colouring of the sides of the head, and absence of the black streaks behind the eye: "bill black; feet scaly green; iris black" (*J. Whitehead*). Total length 7·8 inches, culmen 0·8, wing 3·7, tail 2·35, tarsus 0·95.

*Hab.* Kina Balu Mountain, North Borneo.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Kina Balu (*J. Whitehead*). | Seebohm Coll. |

### 8. Cyanops franklini.

Bucco franklini, *Blyth*, *J. A. S. Beng.* xi. p. 167 (1842), xv. p. 13 (1846).

Bucco igniceps, *Hodgs. Icon. ined. in Brit. Mus.*, Passeres, pl. 322. fig. 2 (no. 172); *id. in Gray's Zool. Misc.* p. 85 (1844).

Megalaima franklini, *Gray*, *Gen. B.* ii. p. 430 (1846); *Blyth*, *Cat. B. Mus. As. Soc.* p. 68 (1849); *Bp. Consp. Av.* i. p. 144 (1850); *Gray*, *Cat. Mamm. &c. Nepal pres. Hodgs.* p. 114 (1863); *Goffin*, *Mus. Pays-Bas*, i. Buccones, p. 20 (1863); *Gray*, *List Capit. Brit. Mus.* p. 8 (1868); *id. Hand-l. B.* ii. p. 174, no. 8443 (1870).

Cyanops franklini, *Horsf. & Moore*, *Cat. B. Mus. E. I. Co.* ii. p. 643 (1856); *Jerd. B. Ind.* i. p. 314 (1862); *Beavan*, *Ibis*, 1865, p. 412; *Bulger*, *Ibis*, 1869, p. 157; *Jerd. Ibis*, 1872, p. 11; *Hume*, *Nests & Eggs Ind. B.* p. 131 (1873).

Megalæma franklini, *Gould*, *B. Asia*, vi. pl. 50 (1870); *Marshall*, *Monogr. Capit.* p. 51, pl. 24 (1871); *Blyth & Walden*, *B. Burm.* p. 74 (pt.) (1875); *Hume*, *Str. F.* 1879, p. 88; *Scully*, *t. c.* p. 252.

*Adult male.* General colour above grass-green; scapulars like the back; lesser wing-coverts deep blue, median and greater coverts green, with blue edges; bastard-wing, primary-coverts, and quills black, externally blue, the secondaries externally green like the back; tail-feathers green above, blue below; crown of head bright golden yellow, with a scarlet spot on the occiput; sides of the hinder crown black from the lores, with a bluish tinge on the sides of the

nape; forehead scarlet; lores black like the eyebrows, as well as the feathers round and below the eye; ear-coverts hoary grey, extending over the hinder cheeks and across the lower throat; fore part of cheeks, chin, and upper throat golden yellow; remainder of under surface from the fore neck downwards light yellowish green; under wing-coverts yellowish isabelline, washed with green; quills below blackish, yellowish along the inner edge: "bill black, grey at base; feet green, claws dusky; iris brown" (*J. Scully*). Total length 8 inches, culmen 1, wing 2·9, tail 2·5, tarsus 1.

*Young.* Like the adult, but with all the bright colours feebly developed; head dull golden yellow with scarlet on the forehead and nape; the grey on the sides of the face and throat not developed, the latter washed with yellow, the lower throat green washed with blue.

*Hab.* Eastern Himalayas, Assam, and Manipur.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Nepal. | Hodgson Coll. (Types of *B. igniceps.*) |
| *c–g.* Ad. sk. | Nepal (*B. H. Hodgson*). | |
| *h.* Ad. st. | Behar. | Hodgson Coll. |
| *i.* ♂ ad. sk. | Nepal Valley, May 21 (*J. Scully*). | Hume Coll. |
| *k.* Ad. sk. | Dolaka, Nepal, Jan. (*L. Mandelli*). | Hume Coll. |
| *l–p.* Ad. sk. | Sikhim, Jan., May, Dec. (*L. Mandelli*). | Hume Coll. |
| *q–y.* Ad. sk. | Darjeeling. | Hume Coll. |
| *z.* Juv. sk. | Darjeeling. | Tweeddale Coll. |
| *a′.* Ad. sk. | Assam (*A. W. Chennell*). | Tweeddale Coll. |
| *b′.* Ad. sk. | Shillong (*J. Cockburn*). | Hume Coll. |
| *c′.* ♂ ad. sk. | Naga Hills, March 19 (*A. W. Chennell*). | Tweeddale Coll. |
| *d′, e′.* Ad. sk. | Khasia Hills (*Griffith*). | India Museum. |
| *f′–i′.* ♂ ad.; *k′.* ♀ ad. sk. | Aimole, Manipur, April (*A. O. H.*). | Hume Coll. |
| *l′–o′.* ♂ ad.; *p′–s′.* ♀ ad. sk. | Machi, Manipur, May (*A. O. H.*). | Hume Coll. |

### 9. **Cyanops ramsayi.** (Plate IV. fig. 2.)

Megalæma ramsayi, *Wald. Ann. & Mag. Nat. Hist.* (4) xv. p. 400 (1875); *id. in Blyth, B. Burm.* p. 74 (1875); *Hume, Str. F.* 1875, p. 402; *Wardlaw Ramsay, Ibis*, 1877, p. 457; *Hume & Davison, Str. F.* vi. 1878, p. 152; *Hume, Str. F.* 1879, p. 88; *Salvad. Ann. Mus. Civ. Gen.* (2) v. p. 561 (1888).

Cyanops ramsayi, *Oates, B. Brit. Burm.* ii. p. 135 (1883); *Sharpe, P. Z. S.* 1887, p. 442.

*Adult male.* Similar to *C. asiatica*, but distinguished by the colour of the eyebrow, which is hoary grey like the ear-coverts, and not black; bill black, basal portion of maxilla and lower part of mandible slate-colour: "legs dirty greenish white; iris nut-brown" (*Wardlaw Ramsay*). Total length 8 inches, culmen 1, wing 3·75, tail 2·35, tarsus 0·95.

*Adult female.* Similar to the male in colour. Total length 7·5 inches, culmen 0·95, wing 3·75, tail 2·2, tarsus 0·95.

*Young.* All the plumage duller than in the adults, and the bright parts of the head feebly indicated; the bluer markings on the hinder crown not developed, these parts being green; throat dull hoary grey, washed with yellow.

The Perak birds are more coarsely streaked with grey on the sides of the hinder crown, and have the wing rather shorter. Wing 3·55 to 3·6.

*Hab.* Replaces the foregoing species in the Burmese and Tenasserim hills.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Karen-nee, March (*R. G. W. R.*). | Tweeddale Coll. (Types of the species.) |
| *c–g.* ♂ ad.; *h, i, k.* ♀ ad. sk. | Karen-nee, Jan., March, April (*R. G. W. R.*). | Tweeddale Coll. |
| *l.* Juv. sk. | Tonghoo (*R. G. W. R.*). | Tweeddale Coll. |
| *m–p.* ♂ ad.; *q.* ♀ ad. sk. | Paraduba, Tenasserim, Jan. (*W. Davison*). | Hume Coll. |
| *r–b′.* ♂ ad.; *c′.* ♀ ad. sk. | Mooleyit, Jan. (*W. Davison*). | Hume Coll. |
| *d′, e′.* ♀ ad. sk. | Mooleyit, April (*W. Limborg*). | Tweeddale Coll. |
| *f′, g′.* ♀ ad. sk. | Meetan, Feb. 4 (*W. Davison*). | Hume Coll. |
| *h′.* ♂ ad. sk. | Myawadee, Jan. 20 (*W. Davison*). | Hume Coll. |
| *i′.* ♂ ad. sk. | Thoungyeen Valley, Dec. 29. | Major C. T. Bingham [P.]. |
| *k′, l′.* ♂ ♀ ad. sk. | Mountains of Perak. | L. Wray, Esq. [P.]. |

## 10. Cyanops oorti.

Bucco oorti, *S. Müller, Nat. Gesch. en Phys.* ii. p. 341, pl. 8. fig. 4 (1835); *Hartl. Rev. Zool.* 1842, p. 337.

Megalaima oorti, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 21 (1863); *Gray, List Capit. Brit. Mus.* p. 7 (1868); *id. Hand-l. B.* ii. p. 174, no. 8440 (1870).

Megalæma oorti, *Bp. Consp. Vol. Zygod.* p. 12 (1854); *Marshall, Monogr. Capit.* p. 59, pl. 27 (1871); *Büttik. Notes Leyden Mus.* ix. p. 16 (1886); *Sharpe, P. Z. S.* 1887, p. 442.

Cyanops oorti, *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 180 (1879).

*Adult female.* General colour above light grass-green; wing-coverts like the back; bastard-wing, primary-coverts, and quills dusky blackish, externally like the back, the primaries yellowish towards the ends of the outer web; tail-feathers green above, blue beneath; crown of head pale straw-yellow, with a scarlet spot on the occiput and nape; hind neck green like the back; forehead and lores scarlet; a black eyebrow widening above the ear-coverts and having a blue band between it and the scarlet nape-spot; feathers round eye greenish yellow; sides of face and ear-coverts and hinder cheeks cobalt-blue; a black band from the angle of the bill above the cheeks, the fore part of which is yellow like the chin and upper

throat; lower throat cobalt-blue, with a scarlet spot on the sides of the fore neck, which is emerald-green like the rest of the under surface; under wing-coverts yellowish, washed with green; quills below dusky yellow along the inner edge: "bill black, feet bluish green; iris dark brown" (*Dr. Klaesi*). Total length 7·5 inches, culmen 0·9, wing 3·55, tail 2·5, tarsus 0·9.

*Hab.* High mountains of the Malayan Peninsula and Sumatra.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Sumatra. | |
| *c, d.* Ad. sk. | Lolo, Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *e.* Ad. sk. | Ayer Angat, Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *f.* ♀ ad. sk. | Mountains of Perak. | L. Wray, Esq. [P.]. |

### 11. Cyanops mystacophanes.

Bucco mystacophanes, *Temm. Pl. Col.* iii. p. 315 (1824); *Cuv. Règne Anim.* p. 458 (1829).

Bucco quadricolor, *Eyton, P. Z. S.* 1839, p. 105; *Blyth, J. A. S. Beng.* xv. p. 14 (1846).

Megalaima mystacophanes, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Moore, P. Z. S.* 1859, p. 454; *Goffin, Mus. Pays-Bas,* Buccones, p. 18 (1863); *Gray, List Capit. Brit. Mus.* p. 7 (1868); *id. Hand-l. B.* ii. p 174, no. 8436 (1870).

Megalaima quadricolor, *Gray, Gen. B.* ii. p. 429 (1846).

Chotorhea mystacophanes, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 641 (1856); *Salvad. Ucc. Born.* p. 34, pl. 1 (1874); *Oates, Handb. B. Brit. Burm.* ii. p. 130 (1883).

Megalæma mystacophanes, *Sclat. P. Z. S.* 1863, p. 210; *Tweedd. Ibis,* 1877, p. 299; *Sharpe, Ibis,* 1879, p. 239; *Nicholson, Ibis,* 1883, p. 87.

Megalæma mystacophanos, *Bp. Consp. Vol. Zyyod.* p. 12 (1854); *Marshall, Monogr. Capit.* p. 41, pl. 19; *Hume, Str. F.* 1874, p. 472; *Wald. B. Burm.* p. 74 (1875); *Sharpe, Ibis,* 1876, p. 35; *Hume & Davison, Str. F.* vi. 1878, pp. 152, 502; *Hume, Str. F.* 1879, pp. 53, 88; *Salvin, Cat. Strickl. Coll.* p. 446 (1882); *Nicholson, Ibis,* 1882, p. 57; *Snellem. in Veth's Midden-Sumatra,* p. 35 (1885); *Büttik. Notes Leyden Mus.* ix. p. 15 (1886).

Megalæma humei, *Marshall, Ibis,* 1870, p. 536; *id. Monogr. Capit.* p. 45, pl. 21 (1871).

Chotorhea nebulosa, *Marshall, Monogr. Capit.* Introd. p. xxxix.

Chotorhea mystacophanes, *Salvad. Ann. Mus. Civ. Genov.* xiv. 1879, p. 179.

*Adult male.* General colour above dark grass-green; wing-coverts like the back; bastard-wing, primary-coverts, and quills black, externally green, the primaries edged with yellow towards the tip; tail-feathers green above, blue below; crown of head scarlet, narrowing towards the occiput and nape; the sides of the latter bright green like the hind neck and sides of the neck; forehead golden yellow; lores scarlet, surmounted by a black line which extends above the eye, hence with a few blue feathers to behind the latter, where it forms a large black spot above the ear-coverts; below the eye a large patch of bright cobalt; ear-coverts and hinder

cheeks bright green ; fore part of cheeks with a bright yellow spot ; chin and upper throat bright scarlet ; lower throat with a patch of cobalt-blue ; a scarlet spot on the sides of the fore neck ; remainder of the underparts emerald-green, more yellowish green on the breast ; under tail-coverts green ; under wing-coverts yellowish white washed with green ; edge of the wing green ; quills below dusky, yellowish along the inner edges ; " bill black ; orbital skin dark greenish or greenish brown ; legs and feet very pale bluish or horny green ; iris deep brown " (*W. Davison*). Total length 8·5 inches, culmen 1·4, wing 3·85, tail 2·2, tarsus 1·0.

*Adult female.* Similar to the male in colour. Total length 7·8 inches, culmen 1·3, wing 3·65, tail 2·6, tarsus 1·05.

Young birds have a pale base to the bill and a yellow or greenish-yellow throat. The colour of the green plumage is always more dingy than in the adults, the forehead is yellowish green, inclining to bluish or emerald-green on the vertex ; the scarlet patch on the hinder crown is at first orange-yellow. There is no black above the eye, but there is an eyebrow of cobalt-blue, and a patch of that colour below the eye and on the fore part of the cheeks. Between the young plumage with the yellow throat and that with the throat scarlet, the Museum series shows every possible gradation, and Count Salvadori's exposition of their changes of dress in his 'Uccelli di Borneo' is undoubtedly correct, nor does there seem to be any exact sequence in the acquisition of the bright colours and markings. The scarlet patch on the hinder crown is certainly acquired very soon, accompanied by a yellow forehead and emerald-green vertex, and the yellow cheek-spot and black mark above the ear-coverts appear to be the last to be donned. The red spot on either side of the fore neck is often absent.

*Hab.* From the southern half of the Tenasserim province, through the Malayan Peninsula to Sumatra and Borneo.

| | | |
|---|---|---|
| *a*. ♀ juv. sk. | Mergui, July 11 (*W. Davison*). | Hume Coll. |
| *b*, *c*. ♂ ad. sk. | Palaw-ton-ton, Dec. (*W. Davison*). | Hume Coll. |
| *d*. ♂ ad. sk. | South of Yea, April 4 (*W. Davison*). | Hume Coll. |
| *e*. ♂ ad. sk. | Hankachin, Feb. 6 (*W. Davison*). | Hume Coll. |
| *f*, *g*. ♂ ad. sk. | Foot of N'walabo, April (*W. Davison*). | Hume Coll. |
| *h*–*b'*. ♂ ad. et juv.; *c'*–*h'*. ♀ ad. et juv. sk. | Bankasoon, March to June (*W. Davison*). | Hume Coll. |
| *i'*. ♂ ad.; *k'*, *l'*. ♀ juv. sk. | Malewoon, Feb., April, June (*W. Davison*). | Hume Coll. |
| *m'*, *n'*. Ad. sk. | Malewoon, Feb., March. | Oates Coll. |
| *o'*, *p'*. ♀ imm. sk. | Kossoum, April (*J. Darling*). | Hume Coll. |
| *q'*. Imm. sk. | Penang. | Wallace Coll. |
| *r'*, *s'*. ♀ imm. sk. | Salangore, July (*W. Davison*). | Hume Coll. |
| *t'*. Ad. sk. | Malacca (*Charlton*). | Eyton Coll. (Type of *B. quadricolor*.) |

| | | |
|---|---|---|
| *u'*. Ad.; *v'*. Juv. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *w'*. Ad. sk. | Malacca (*R. G. W. R.*). | Tweeddale Coll. |
| *x'–i''*. Ad. et juv. sk. | Malacca, Feb., July, Sept. (*W. Davison*). | Hume Coll. |
| *k''*. Ad. sk. | Singapore. | Hume Coll. |
| *l''–n''*. Ad. sk. | Sumatra. | |
| *o''*. ♂ ad. sk. | Mt. Sago, Sumatra, Sept. (*Carl Bock*). | Tweeddale Coll. |
| *p''–v''*. Ad. et imm. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *w''–y''*. ♂ ad.; *z''*, *a*. ♀ juv. sk. | Sarawak (*A. R. Wallace*). | |
| *β*. Juv. sk. | Sarawak (*A. Everett*). | Tweeddale Coll. |
| *γ*, *δ*, *ε*. ♂ ad.; *ζ*. ♀ juv. sk. | Busan, Sarawak, July, Oct. (*A. Everett*). | Tweeddale Coll. |
| *η*. ♀ juv. sk. | Simunjon, Sarawak (*A. Everett*). | Tweeddale Coll. |
| *θ*. ♂ ad.; *ι*. ♀ juv. sk. | Jambusan, Sarawak, Sept. | A. Everett, Esq. [C.]. |

### 12. Cyanops monticola.

Cyanops monticola, *Sharpe, Ann. & Mag. Nat. Hist.* (6) iii. p. 424 (1889); *id. Ibis*, 1890, pp. 5, 281.

*Adult male.* Similar to the immature bird of *C. mystacophanes*, and having a yellow throat and a red spot on each side of the fore-neck; the lores and forehead and fore part of crown are yellowish green, the hinder crown blue with a large crimson patch on the nape. Total length 9 inches, culmen 1·15, wing 3, tail 2·5, tarsus 1·05.

*Hab.* Kina Balu Mountain, N.W. Borneo.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad. et imm. sk. | Kina Balu, March (*J. Whitehead*). | Seebohm Coll. |

### 13. Cyanops nuchalis.

Megalæma nuchalis, *Gould, P. Z. S.* 1862, p. 283; *Swinh. Ibis*, 1863, p. 387; *Gould, B. Asia*, vi. p. 49 (1864); *Swinh. Ibis*, 1865, p. 545, 1866, p. 296; *id. P. Z. S.* 1871, p. 371; *David & Oust. Ois. Chine*, p. 57 (1877).
Megalaima nuchalis, *Gray, Hand-l. B.* ii. p. 174, no. 8439 (1870).

*Adult male.* Similar to *C. oorti*, but having the lores only scarlet, the forehead being straw-yellow like the crown; the hinder crown blue like the sides of the face; no scarlet nape-spot, but instead a patch of scarlet feathers on the upper mantle; sides of face and throat as in *C. oorti*, but instead of the spot on each side of the fore neck there is a collar of scarlet across the latter: "bill bright bluish grey at the base of the upper and basal half of the lower mandible, the rest deep greenish black; legs leaden grey with a greenish tinge; sole-pads dingy brownish, claws brownish white, greenish black on their arches and sides; iris reddish brown"

(*Swinhoe*). Total length 7·5 inches, culmen 0·95, wing 4, tail 2·4, tarsus 0·95.

*Hab.* Formosa.

| | | |
|---|---|---|
| *a–f.* Ad. sk. | Formosa (*R. Swinhoe*). | |
| *g–n.* Ad. et imm. sk. | Formosa, March, May, Oct. (*R. Swinhoe*). | Seebohm Coll. |
| *o.* Ad. sk. | Formosa, Jan. (*R. Swinhoe*). | Hume Coll. |
| *p.* Ad. sk. | N. Formosa, April (*R. Swinhoe*). | Seebohm Coll. (Type of species.) |
| *q.* Ad. sk. | N. Formosa, April (*R. Swinhoe*). | Salvin-Godman Coll. |

## 14. Cyanops faber.

Megalæma faber, *Swinhoe*, *Ibis*, 1870, p. 96, pl. iv.; *id. P. Z. S.* 1871, p. 391; *Marshall, Monogr. Capit.* p. 59, pl. 25 (1871); *David & Oust. Ois. Chine*, p. 57 (1877).
Megalaima faber, *Gray, Hand-l. B.* ii. p. 174, no. 8441 (1870).

*Adult.* Of the same general form as *C. oorti* and *C. nuchalis*, but differing from both in its bluer crown, with a large patch of scarlet on the nape; throat, and sides of the face as in the above-mentioned species, but the blue is more of a purplish cobalt; as in *C. nuchalis* there is a scarlet collar across the fore neck: "irides deep reddish brown; legs leaden grey with a green tinge" (*Swinhoe*). Total length 7·5 inches, culmen 1, wing 4·25, tail 2·3, tarsus 0·95.

*Hab.* Island of Hainan.

| | | |
|---|---|---|
| *a.* Ad. sk. | Hainan, Feb. (*R. Swinhoe*). | Seebohm Coll. (Type of species.) |
| *b, c.* Ad. sk. | Hainan, Feb. (*R. Swinhoe*). | Tweeddale Coll. |

## 15. Cyanops lagrandieri.

Megalæma lagrandieri, *Verr. N. Arch. Mus.* iv. *Bull.* p. 87 (1868); *Marshall, Monogr. Capit.* p. 79, pl. 34 (1871); *Tiraud, Bull. Soc. Agricol. Cochin Chine*, 1879, p. 90.
Megalaima lagrandieri, *Gray, Hand-l. B.* ii. p. 175, no. 8463 (1870).

*Adult male**. General colour green, with more or less of a bluish shade on the upper surface of the body; this colour is especially more pronounced on the lesser wing-coverts, having more of an olive tone on the lower parts of the body, the middle of the belly being clear blue; head and neck brown, darker above than below; on the forehead a very narrow band of greenish yellow terminated with red, the plumes being directed forward; the next band, which is larger, has all the feathers terminated with red, the plumes of the nape and hind part of the neck having also a darker or lighter

* Not having seen a specimen of this Barbet, I have copied the translation given by Marshall (*l. c.*).

shade of this colour, especially towards the base of the latter; ear-coverts washed with blue, traces of which colour are visible on the ends of the feathers of the chin and fore part of the neck, some of the latter being tinged with red towards the extremity; wings blackish, bordered externally with olive-green on the primaries, green only on the secondaries, the inner web all yellowish white, and the under wing-coverts also of the same colour; tail-feathers coloured like the wing on the upper part, but having a silvery tinge underneath; under tail-coverts blackish at the base and red for the rest of their extent, the latter colour varying in intensity; beak much curved and equal in length to the head, very strong at the base, conspicuously vaulted and rather conical, the upper part blackish, but all the rest whitish, furnished with long bristles extending for more than half its length; tarsi rather long, horn-colour, as also are the nails: wings with the third and fourth quills longest; tail rather long and slightly rounded. Total length 12 inches, bill from gape 2, wing 5·2, tarsus 1·2.

*Hab.* Cochin China.

### 16. Cyanops phæostriata.

Bucco flavostrictus, *Temm. Pl. Col.* iii. pl. 527 (1831).
Megalaima flavostriata, *Gray, Gen. B.* ii. p. 429 (1846).
Megalaima phaiosticta, *Bp. Consp.* i. p. 144 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 36 (1863); *Gray, List Capit. Brit. Mus.* p. 13 (1868); *id. Hand-l. B.* ii. p. 175, no. 8461 (1870).
Chotorhea phæosticta, *Bp. Consp. Volucr. Zygod.* p. 12 (1854).
Megalæma phæostriata, *Marshall, Monogr. Capit.* p. 99, pl. 41 (1871); *Tiraud, Bull. Soc. Agric. Cochin Chine*, 1879, p. 91.

*Adult.* Grass-green, the wings like the back, the primaries edged with yellow; tail-feathers green above, bluish below; crown of head and hind neck yellowish white, broadly streaked with brown, the feathers being centred with blackish brown; hind neck slightly washed with green; sides of neck green, streaked with white; feathers below the eye and ear-coverts emerald-green: cheeks and throat dull white, the feathers broadly centred with brown; remainder of under surface of the body emerald-green, the feathers of the fore neck, breast, sides of body, and under tail-coverts centred with dusky blackish; thighs green externally, white internally; under wing-coverts and quill-lining pale yellow. Total length 8·7 inches, culmen 1·05, wing 4·05, tail 2·3, tarsus 1.

*Hab.* Cochin China.

*a.* Ad. sk. Saigon, Cochin China. Tweeddale Coll.

### 17. Cyanops zeylonica.

Yellow-cheeked Barbet, *Brown, Ill. Zool.* p. 34, pl. 15. fig. 1 (1776); *Lath. Gen. Syn.* i. pt. 2, p. 506 (1783).
Bucco zeylanicus, *Gm. Syst. Nat.* i. p. 408 (1788); *Cuv. Regne Anim.* i. p. 457, note (1829); *Blyth, J. A. S. Beng.* xv. p. 13 (1846).

Le Kotterea, *Levaill. H. N.* Barbus, ii. p. 87, pl. 38 (1806).
Capito zeilonicus, *Vieill. N. Dict.* iv. p. 499 (1816).
Megalaima caniceps (*nec Frankl.*), *Gray, Gen. B.* ii. p. 429 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 66 (1849, pt.); *Layard, Ann. & Mag. N. H.* (2) xiii. p. 446 (1854); *Cass. U. S. Exped.* (*Perry*), p. 242 (1856).
Bucco caniceps, *Blyth, J. A. S. Beng.* xv. p. 282 (1846).
Bucco viridis (*nec Bodd.*), *Bp. Consp.* i. p. 144 (1853).
Megalaima zeylonica, *Blyth, J. A. S. Beng.* xx. p. 151 (1851); *Kelaart, Prodr. Cat.* p. 127 (1852); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 638 (1856); *Jerd. B. Ind.* i. p. 311 (1862); *Goffin, Mus. Pays-Bas*, Buccones, p. 34 (1863); *Gray, List Capit. Brit. Mus.* p. 13 (1868); *id. Hand-l. B.* ii. p. 175, no. 8458 (1870); *Holdsw. P. Z. S.* 1872, p. 429; *Hume, Nests & Eggs Ind. B.* p. 130 (1873); *Legge, Ibis*, 1874, p. 15.
Megalæma zeylonica, *Blyth, Ibis*, 1867, p. 296; *Marshall, Monogr. Capit.* p. 95, pl. 40 (1871); *Hume, Str. F.* viii. p. 369 (1878), ix. p. 88 (1879); *Legge, B. Ceylon*, p. 208, pl. 10. fig. 1 (1879).

*Adult male.* Similar to *C. caniceps* but smaller, with all the colours intensified, the green colour lighter, the brown darker, and the light streaks and spots much more strongly developed: "bill dull orange or fleshy red; legs and feet sickly yellow or pale olivaceous yellow; iris reddish brown, with a pale outer circle, sometimes brownish buff; orbital skin dull yellow" (*W. V. Legge*). Total length 9·8 inches, culmen 1·3, wing 4·5, tail 2·75, tarsus 1·15.

*Adult female.* Similar to the male in colour. Total length 10 inches, culmen 1·25, wing 4·4, tail 2·9, tarsus 1·05.

*Young.* All the plumage softer and more fluffy; the brown of the head and throat much paler than in the adults, and the streaks almost obsolete; the green plumage much lighter than in the adults, and scarcely showing any streaks or spots.

*Hab.* Replaces *C. caniceps* in Travancore and Ceylon.

| | | |
|---|---|---|
| *a–h.* Ad. et imm. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *i.* ♀ ad. sk. | S.W. Ceylon, April 22 (*W. V. Legge*). | Hume Coll. |
| *k, l.* ♂ ad.; *m, n, o.* ♀ ad. sk. | Hangwella, Ceylon, March, Dec. (*S. Chapman*). | Tweeddale Coll. |
| *p.* ♀ ad. sk. | Radwella, Ceylon, March 21 (*S. Chapman*). | Tweeddale Coll. |
| *q.* ♂ ad. sk. | Roesgode, Ceylon, March 24 (*S. Chapman*). | Tweeddale Coll. |
| *r.* ♂ ad. sk. | Valadoora, Ceylon, April (*S. Chapman*). | Tweeddale Coll. |
| *s.* ♀ ad. sk. | Ragam Corale, Ceylon, Dec. 2 (*Messrs. Hart*). | Hume Coll. |
| *t–b'.* Ad. et imm. sk. | Anjango, Travancore, Dec. | Hume Coll. |

## 18. Cyanops caniceps.

Bucco caniceps, *Frankl. P. Z. S.* 1830, p. 121; *Hartl. Rev. Zool.* 1842, p. 337; *Blyth, J. A. S. Beng.* xv. p. 12 (1846).
Bucco lineata (*nec V.*), *Tickell, J. A. S. Beng.* ii. p. 579 (1833).
Bucco viridis, pt., *Jerd. Madr. Journ.* xi. p. 217 (1840).
Bucco zeylanicus, pt., *Jerd. Madr. Journ.* xiii. pt. 2, p. 140 (1844).
Megalaima caniceps, *Gray, Gen. B.* ii. p. 429 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 66 (1849); *Bp. Consp. Av.* i. p. 144 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 637 (1856); *Jerd. B. Ind.* i. p. 310 (1862); *Goffin, Mus. Bays-Bas,* Buccones, p. 36 (1863), note; *Gray, List Capit. Brit. Mus.* p. 12 (1868); *id. Hand-l. B.* ii. p. 175, no. 8457 (1870); *Hume, Nests & Eggs Ind. B.* p. 129 (1873).
Chotorhea caniceps, *Bp. Consp. Vol. Zygod.* p. 12 (1854).
Megalæma caniceps, *Beavan, Ibis,* 1865, p. 411; *Marshall, Monogr. Capit.* p. 39, pl. 91 (1871); *Jerdon, Ibis,* 1872, p. 11; *Ball, Str. F.* 1874, p. 392; *id.* 1877, p. 413; *id.* vii. p. 206 (1878); *Hume, Str. F.* 1879, p. 88; *Swinh. & Barnes, Ibis,* 1885, p. 63; *Reid, Cat. Lucknow Mus.* p. 26 (1886); *id. Str. F.* x. p. 25 (1887).
Megalæma inornata, *Walden, Ann. Nat. Hist.* (4) v. p. 219 (1870); *Marshall, Monogr. Capit.* p. 38, pl. 89 (1871); *Jerdon, Ibis,* 1872, p. 11; *Hume, Str. F.* 1875, p. 410; *Fairbank, Str. F.* 1876, p. 255; *Butler, Cat. B. Sind, &c.* p. 19 (1879); *Hume, Str. F.* 1879, p. 88; *Vidal, Str. F.* ix. 1880, p. 54; *Butler, t. c.* p. 387; *id. B. S. Bomb. Pres.* p. 25 (1880); *Davison, Str. F.* x. p. 298 (1887).

*Adult male.* Above bright green, all the feathers streaked with yellowish-white shaft-lines, slightly widening towards the ends, and sometimes with only a pale terminal spot, especially on the wing-coverts, which are somewhat browner; the lower back, rump, and upper tail-coverts uniform green, without stripes; quills dusky brown, externally green, the primaries yellowish towards the ends of the outer web; inner secondaries entirely green with yellowish spots at the ends like the wing-coverts; tail green above, bluish beneath; head and neck all round, as well as the throat, fore neck, and breast, brown, with whitish shaft-streaks, broader on the hind neck and mantle; lores, fore part of cheeks, and chin dark ashy grey; throat uniform dark brown; sides of body, flanks, abdomen, thighs, and under tail-coverts emerald-green, with a slight wash of pale brown over the abdomen; under wing-coverts and inner lining of quills yellowish: "bill brownish flesh-colour; feet dingy chrome-yellow, claws brown; facial skin buffy yellow, reddish posteriorly" (*A. O. Hume*). Total length 10·8 inches, culmen 1·35, wing 5, tail 3·2, tarsus 1·15.

*Adult female.* Similar to the male. Total length 9·5 inches, culmen 1·45, wing 4·6, tail 2·8, tarsus 1·15.

In the southern portion of the Indian Peninsula a race occurs which has the green of the underparts more restricted owing to the gradual extension of the brown of the breast over the abdomen. A

perfect gradation between this form, *Cyanops inornata* (Walden), and the true *C. caniceps* exists, and I cannot admit their being specifically distinct.

*Hab.* The greater part of the Indian Peninsula.

| | | |
|---|---|---|
| *a*, *b*. Ad.; *c*. Imm. sk. | Dehra Dhoon. | Hume Coll. |
| *d*, *e*. Ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *f*. Ad. sk. | Saharunpur, April. | Hume Coll. |
| *g*. Ad. sk. | Sewalik Range, March (*Dr. Scott*). | Tweeddale Coll. |
| *h*. Imm. sk. | Kumaon Bhabur, March 24. | Hume Coll. |
| *i*. ♂ ad. sk. | Sunnye, Gurhwal, Feb. 5. | Hume Coll. |
| *k*. Ad. sk. | Rohilkund Terai (*S. Pinwill*). | Tweeddale Coll. |
| *l*. ♂ ad. sk. | Pilibheet, Oct. 23. | Hume Coll. |
| *m*. ♀ ad. sk. | Bareilly, May 30. | Hume Coll. |
| *n*, *o*. ♂ ♀ ad. sk. | Chuppra, March (*R. M. Adam*). | Hume Coll. |
| *p*, *q*. ♂ ad.; *r*, *s*, *t*. ♀ ad. sk. | Allahabad, Jan., Feb., Dec. (*A. O. H.*). | Hume Coll. |
| *u*, *v*. ♂ ♀ ad. sk. | Futtegurh district (*A. Anderson*). | Seebohm Coll. |
| *w*. Ad. sk. | Lucknow, Feb. | Colonel Way [P.]. |
| *x*, *y*, *z*. Ad. sk. | Plains of N.W. Provinces (*S. Pinwill*). | Tweeddale Coll. |
| *a'*. Ad.; *b'*, *c'*. ♀ ad. sk. | Mount Aboo, April (*E. A. Butler*). | Hume Coll. |
| *d'*, *e'*. ♂ ad. sk. | Mount Aboo, April, May (*G. King*). | Hume Coll. |
| *f'*, *g'*. Ad.; *h'*. Juv. sk. | Mount Aboo. | Colonel Butler [C.]. |
| *i'*. Ad. sk. | Saugor. | Hume Coll. |
| *k'*. Ad. sk. | Hills north of Khandeish, May 21. | Hume Coll. |
| *l'*. Ad. sk. | Matheran, April 7. | Hume Coll. |
| *m'*. ♀ ad. sk. | Mahableshwar, May (*S. B. Fairbank*). | Hume Coll. |
| *n'*, *o'*. ♂ ad. sk. | Khandala, March (*S. B. Fairbank*). | Hume Coll. |
| *p'*–*w'*. ♂ ad.; *x'*, *y'*. ♀ ad. sk. | Khandala, March to May (*S. B. Fairbank*). | Tweeddale Coll. |
| *z'*. ♀ ad. sk. | Ratnagiri, June 11 (*J. Armstrong*). | Hume Coll. |
| *a''*, *b''*. ♂ ad.; *c''*. ♀ ad. sk. | Ratnagiri, Aug. to Oct. (*G. Vidal*). | Hume Coll. |
| *d''*, *e''*. ♂ ♀ imm. sk. | Jounpur Dist., Feb. 14 (*A. O. H.*). | Hume Coll. |
| *f''*. Ad. sk. | Khalári, March 1. | Hume Coll. |
| *g''*. Ad. sk. | Jubbulpur Dist. | Hume Coll, |
| *h''*, *i''*. Ad. sk. | Maunbhoom, Feb., March (*R. C. Beavan*). | Tweeddale Coll. |
| *k''*, *l''*. Ad. sk. | Raipur. | Hume Coll. |
| *m''*. Ad. sk. | Manipur, May 26. | Colonel Swinhoe [P.]. |

| | | |
|---|---|---|
| *n''*, *o''*. Ad. sk. | Khandeish. | Tweeddale Coll. (Type of *M. inornata*.) |
| *p''*. ♂ ad. sk. | Satpuras, Khandeish, Jan. | Hume Coll. |
| *q''*. ♀ ad. sk. | Taloda Jungle, Khandeish, March 20 (*J. Davidson*). | Hume Coll. |
| *r''*, *s''*. ♂ ♀ ad. sk. | Khandeish, March 28 (*J. Davidson*). | Hume Coll. |
| *t''*. Ad. sk. | Tapti Valley, Khandeish, May. | Hume Coll. |
| *u''*. Ad. sk. | Hullial, N. Canara, April 8. | Hume Coll. |
| *v''*, *w''*. Ad. sk. | Coorg. | Tweeddale Coll. |
| *x''*. ♂ ad. sk. | Nilghiris, Dec. 8. | W. Davison [P.]. |
| *y''*. ♂ ad. sk. | Cannanore, Sept. 9 (*R. G. W. R.*). | Tweeddale Coll. |
| *z''*–*β*. Ad. sk. | Malabar. | Tweeddale Coll. |

## 19. Cyanops lineata.

Capito lineatus, *Vieill. N. Dict. Hist. Nat.* iv. p. 500 (1816).

Bucco leucorhynchus, *Reinw. Batav. Courant*, 1820 (*teste Goffin*).

Bucco fuscicapillus, *Drap. Dict. Class.* ii. p. 195 (1822).

Bucco caniceps vel viridis, *Hodgs. Icon. ined. in Brit. Mus.*, Passeres, pl. 321. figs. 1, 2 (no. 170); *id. in Gray's Zool. Misc.* p. 85 (1844).

Bucco lineatus, *Blyth, J. A. S. Beng.* xv. p. 12 (1846).

Megalaima caniceps (*nec Frankl.*), *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 114 (1846).

Megalaima lineata, *Blyth, Cat. B. Mus. As. Soc.* p. 66 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 636 (1856); *Jerd. B. Ind.* i. p. 309 (1862); *Gray, List Capit. Brit. Mus.* p. 12 (1868); *id. Hand-l. B.* ii. p. 175, no. 8455 (1870).

Megalaima hodgsoni, *Bp. Consp.* i. p. 144 (1850); *Goffin, Mus. Pays-Bas*, Buccones, p. 34 (1863); *Gray, List Capit. Brit. Mus.* p. 12 (1868); *id. Hand-l. B.* ii. p. 175, no. 8456 (1870); *Hume, Nests & Eggs Ind. B.* p. 129 (1873).

Chotorhea hodgsoni, *Bp. Consp. Vol. Zygod.* p. 12 (1854).

Megalaima maclellandi, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 637 (1856); *Gray, Hand-l. B.* ii. p. 175, no. 8460 (1870).

Megalæma viridis (*nec Bodd.*), *Goffin, Mus. Pays-Bas*, Buccones, p. 32 (1863); *Vorderm. Nat. Tijdsdr. Nederl. Ind.* xiii. p. 202 (1883).

Megalæma hodgsoni, *Blyth, Ibis*, 1866, p. 358; *Wald. P. Z. S.* 1866, p. 540; *Marshall, Monogr. Capit.* p. 85, pl. 36 (1871); *Hume, Str. F.* 1875, p. 75, 1877, p. 27; *Blyth & Wald. B. Burm.* p. 73 (1875); *Hume & Davison, Str. F.* vi. p. 151 (1878); *Anders. Zool. Exped. Yunnan*, Birds, p. 583 (1878); *Hume, Str. F.* 1879, p. 88; *Oates, t. c.* p. 166; *Scully, t. c.* p. 251; *Bingham, Str. F.* ix. p. 165 (1880); *Reid, Cat. Lucknow Mus.* p. 36 (1886); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 577 (1887); *Oates, Str. F.* x. p. 192 (1887); *Salvad. Ann. Mus. Civ. Genov.* (2) vi. p. 56 (1888); *Hume, Str. F.* xi. p. 67 (1888).

Megalæma lineata, *Marshall, Monogr. Capit.* p. 88, pl. 37 (1871); *Jerd. Ibis*, 1872, p. 11; *Hume, Str. F.* 1874, p. 472; *Tiraud, Bull. Soc. Agric. Cochin Chine*, 1879, p. 91.

Cyanops hodgsoni, *Oates, Handb. B. Brit. Burm.* ii. p. 132 (1883).
Chotorhea viridis (*nec Bodd.*), *Vorderm. Nat. Tidschr. Nederl. Ind.* xlvi. p. 73 (1887).

*Adult.* Above grass-green, with yellowish-white centres to the feathers on the mantle and upper back; wings green like the back, the primaries externally olive-yellow towards their ends; tail-feathers green above, bluish below; crown of head hoary whitish, with brown edges to the feathers, producing a streaked appearance, very strongly pronounced on the hind neck; lores, feathers round the eye, and sides of face whitish; the ear-coverts, hind cheeks, and sides of neck streaked with brown, with which colour the feathers are edged; throat uniform whitish or with only a few brown streaks; fore neck and entire breast whitish, with broad margins of brown, producing a streaked and mottled appearance; sides of the breast and flanks, thighs, and under tail-coverts light emerald-green, slightly streaked with darker green edges to the feathers; under wing-coverts yellowish white, with dusky brown edges to the feathers; quills dark brown below, yellowish along the inner web: "bill horny yellow; orbits deep yellow; iris deep brown and reddish brown; feet fleshy yellow, claws dusky brown at bases" (*J. Scully*). Total length 11 inches, culmen 1·4, wing 5·7, tail 3·55, tarsus 1·3.

It seems to me absolutely impossible to draw the line between *C. hodgsoni* and *C. lineata* of Java. Messrs. Marshall state in their 'Monograph' that the difference lies in the smaller size and darker streaking below of the Javan bird; but some specimens from Tenasserim are even darker than those from Java, and there are others which exactly resemble the true *C. hodgsoni* of the Dhoon. As regards size little can be said, as will be seen from the following measurements, which could be multiplied to any extent. All that can be said is that the Himalayan birds are the larger, and that the species diminishes in size to the eastward until its smallest form is reached in Java.

| | Total length. | Culmen. | Wing. | Tail. | Tarsus. |
|---|---|---|---|---|---|
| | in. | in. | in. | in. | in. |
| *a.* Ad. sk. Kaladoongi, Dhoon..... | 10·5 | 1·3 | 5·45 | 3·4 | 1·18 |
| *b.* Ad. Buxa Doars ..... | 9·8 | 1·45 | 5·3 | 3·2 | 1·2 |
| *c.* ♂ ad. Younzaleen, Tenasserim... | 10·2 | 1·2 | 4·85 | 3·0 | 1·2 |
| *d.* ♂ ad. Kaukaryit, Tenasserim ... | 9·8 | 1·15 | 4·95 | 3·1 | 1·25 |
| *e.* ♂ ad. Kaukaryit, Tenasserim ... | 9·4 | 1·25 | 4·75 | 2·9 | 1·15 |
| *f.* Ad. Java..... | 10·0 | 1·3 | 4·55 | 2·75 | 1·1 |
| *g.* ♂ ad. Java..... ..... | 9·5 | 1 35 | 4·5 | 2·95 | 1·15 |
| *h.* ♀ ad. Java..... | 9·0 | 1·15 | 4·6 | 2·9 | 1·1 |

*Hab.* Himalayas to Assam and the Burmese countries, and re-occurring in Java.

| | | |
|---|---|---|
| *a.* Ad. sk. | Simla, Sept. 15. | Hume Coll. |
| *b–d.* Ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *e–g.* Ad. sk. | Kaladoongi, Sept. | Hume Coll. |

| | | |
|---|---|---|
| *h*. Ad. sk. | Dehra, Oct. 15 (*Dr. King*). | Hume Coll. |
| *i–m*. Ad. ; *n–p*. Juv. sk. | Nepal (*B. H. Hodgson*). | India Museum and Hodgson Coll. |
| *q*. Juv. sk. | Sikhim (*L. Mandelli*). | Hume Coll. |
| *r–w*. Ad. sk. | Darjeeling Terai, March (*L. Mandelli*). | Hume Coll. |
| *x, y*. Ad. sk. | Buxa Doars, Feb., Dec. (*L. Mandelli*). | Hume Coll. |
| *z–f'*. Ad. sk. | Bhotan Doars, Dec., Jan., March (*L. Mandelli*). | Hume Coll. |
| *g', h'*. Ad. sk. | Assam. | Tweeddale Coll. |
| *i', k'*. Ad. sk. | Assam (*McClelland*). | India Museum. |
| *l'–o'*. Ad. sk. | Nazeerah, Upper Assam. | R. B. Sharpe, Esq. [P.]. |
| *p'*. Ad. sk. | Kamroop, Assam, Dec. (*A. W. Chennell*). | Tweeddale Coll. |
| *q', r'*. ♂ ♀ ad. sk. | Tippook, March, April (*J. Cockburn*) | Hume Coll. |
| *s'–w'*. ♂ ad. sk. | Dibrughur, March, July, Aug. (*J. R. Cripps*). | Hume Coll. |
| *x', y'*. ♂ ♀ ad. sk. | N. Khasia Hills, Jan. (*A. W. Chennell*). | Tweeddale Coll. |
| *z', a'', b''*. Ad. sk. | Cachar (*J. Inglis*). | Hume Coll. |
| *c''*. Juv. sk. | N.E. Bengal (*McClelland*). | India Museum. (Type of *M. maclellandi*.) |
| *d''*. Ad. sk. | Dacca (*Col. Tytler*). | India Museum. |
| *e''*. Ad. sk. | Dacca. | Hume Coll. |
| *f''*. Ad. sk. | Burmah. | Tweeddale Coll. |
| *g''*. Ad. sk. | N. of Rangoon, Nov. 11 (*W. Davison*). | Hume Coll. |
| *h''–p''*. ♂ ad. ; *q''*. Juv. sk. | Rangoon, June to Dec. (*R. G. W. R.*). | Tweeddale Coll. |
| *r'', s''*. ♂ ad. ; *t''*. ♀ ad. sk. | Borougho Island, March 24 (*J. Armstrong*). | Hume Coll. |
| *u''–w''*. Ad. sk. | Tonghoo. | Tweeddale Coll. |
| *x''*. ♂ ad. ; *y''–a*³. ♀ ad. sk. | Tonghoo, Feb., April, Nov. (*R. G. W. R.*). | Tweeddale Coll. |
| *b*³, *c*³. Ad. sk. | Tonghoo, Feb. 19. | Oates Coll. |
| *d*³. Ad. sk. | Tonghoo, Oct. (*E. W. Oates*). | Hume Coll. |
| *e*³. Ad. sk. | Karen Hills, Jan. 4 (*R. G. W. R.*). | Tweeddale Coll. |
| *f*³. ♂ ad. sk. | Yaytho, June 10 (*R. G. W. R.*). | Tweeddale Coll. |
| *g*³. Ad. sk. | Bhamo, Feb. | Dr. J. Anderson [C.]. |
| *h*³. Juv. sk. | Shuaykoo, Jan. 21. | Dr. J. Anderson [C.]. |
| *i*³–*l*³. Ad. sk. | Thayetmyo (*E. W. Oates*). | Hume Coll. |
| *m*³. ♀ ad. sk. | Thayetmyo, Dec. 11. | Oates Coll. |
| *n*³, *o*³. ♀ ad. sk. | Lower Pegu, March and June. | Oates Coll. |
| *p*³. Ad. sk. | Bassein, Pegu. | W. T. Blanford, Esq. [P.]. |
| *q*³. ♂ ad. sk. | Kollidoo, Tenasserim, Nov. 17 (*W. Davison*). | Hume Coll. |
| *r*³, *s*³. ♀ ad. ; *t*³. Ad. sk. | Pahpoon, Dec., Jan., Feb. (*W. Davison*). | Hume Coll. |

| | | |
|---|---|---|
| $u^3$, $v^3$. ♂ ad.; $w^3$. ♀ ad. sk. | Youn-za-leen, Salween dist., Dec. (*W. Davison*). | Hume Coll. |
| $x^3$. ♀ ad. sk. | Zinzaway Forests, March 19 (*C. T. Bingham*). | Hume Coll. |
| $y^3$. ♂ ad.; $z^3$, $a$. ♀ ad.; $\beta$. Ad. sk. | Thatone, March, Nov., Dec. (*W. Davison*). | Hume Coll. |
| $\gamma$. ♀ ad. sk. | Myawadee, Jan. 18 (*W. Davison*). | Hume Coll. |
| $\delta$–$\nu$. ♂ ad.; $\xi$–$\phi$. ♀ ad. sk. | Kaukaryit, Dec., Jan., May–Oct. (*J. Darling*). | Hume Coll. |
| $\chi$. ♀ ad. sk. | Kanee, Houngthraw, March 7 (*W. Davison*). | Hume Coll. |
| $\psi$, $\omega$. ♂ ad. sk. | Thoungyeen River, March, Sept. (*C. T. Bingham*). | Hume Coll. |
| $a'$, $\beta'$. ♂ ad.; $\gamma'$. ♀ ad. sk. | Moulmein, March and Nov. (*W. Davison*). | Hume Coll. |
| $\delta'$. ♂ ad. sk. | Paraduba, base of Mooleyit, Jan. 26 (*W. Davison*). | Hume Coll. |
| $\epsilon'$. ♂ ad. sk. | Near Yeaboo, Dec. 21 (*W. Davison*). | Hume Coll. |
| $\zeta'$–$\mu'$. ♂ ad.; $\nu'$, $\xi'$, $o'$. ♀ ad. sk. | Amherst, Jan., March, June, Dec. (*W. Davison*). | Hume Coll. |
| $\eta'$, $\rho'$. ♀ ad. sk. | Meeta Myo, June (*W. Davison*). | Hume Coll. |
| $\sigma'$. ♂ ad.; $\tau'$–$\phi'$. ♀ ad.; $\chi'$. ♂ juv. sk. | Tavoy, March, April, June (*W. Davison*). | Hume Coll. |
| $\psi'$, $\omega'$. ♂ ♀ ad. sk. | Shymootee, May (*W. Davison*). | Hume Coll. |
| $a''$. Ak. sk. | Mt. Sabab, Siam. | Gould Coll. |
| $\beta''$. Ad. sk. | Chantaboon, Gulf of Siam, Sept. (*L. C. Layard*). | Tweeddale Coll. |
| $\gamma''$, $\delta''$. Ad. sk. | Cambodia (*Mouhot*). | Tweeddale Coll. |
| $\epsilon''$, $\zeta''$. ♂ ♀ ad. sk. | Java (*Diard*). | Salvin-Godman Coll. |
| $\eta''$–$\nu''$. Ad.; $\xi''$. Imm. sk. | Java. | |
| $o''$. ♂ ad. sk. | Java. | Wallace Coll. |
| $\pi''$, $\rho''$. Ad. sk. | W. Java (*Buxton*). | F. Nicholson, Esq. [P.]. |

## 20. Cyanops viridis.

Le Barbu Vert, *Buff. Hist. Nat. Ois.* vii. p. 107 (1780).
Barbu de Mahé, *Daubent. Pl. Enl.* vii. pl. 870.
Green Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 504 (1782).
Bucco viridis, *Bodd. Tabl. Pl. Enl.* p. 53 (1783); *Gm. S. N.* i. p. 408; *Jerd. Madr. Journ.* xi. p. 217 (1840); *id. op. cit.* xiii. p. 139 (1844); *Blyth, J. A. S. B.* xv. p. 13 (1846); *Jerd. Ill. Ind. Orn.* pl. 26 (1847).
Bucco caniceps (*nec Frankl.*), *Sykes, P. Z. S.* 1832, p. 97.
Megalaima viridis, *Gray, Gen. B.* ii. p. 429 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 67 (1849); *Bp. Consp. Av.* i. p. 144 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 639 (1856); *Jerd. B. Ind.* i. p. 311 (1862); *Goffin, Mus. Pays-Bas*, Buccones, p. 32

(1863), pt.; *Gray, List Capit. Brit. Mus.* p. 13 (1868); *id. Hand-l. B.* ii. p. 175, no. 3459 (1870); *Hume, Nests & Eggs Ind. B.* p. 130 (1873).

Megalæma viridis, *Marshall, Monogr. Capit.* p. 81, pl. 35 (1871); *Butler, Str. F.* 1875, p. 439; *Fairb. Str. F.* 1876, p. 255; *Hume, t. c.* p. 391; *Fairb. Str. F.* 1877, p. 396; *Davids. & Wend. Str. F.* vii. 1875, p. 78; *Hume, Str. F.* 1879, p. 88; *Vidal, Str. F.* ix. 1880, p. 545; *Butler, t. c.* p. 387; *id. Cat. B. S. Bomb. Pres.* p. 25 (1880); *Reid, Cat. Lucknow Mus.* p. 36 (1886); *Davidson, Str. F.* x. 1887, pp. 298, 358; *Taylor, t. c.* p. 458; *McGregor, t. c.* p. 437; *Terry, t. c.* p. 471.

Megalæma sykesi, *Hayes Lloyd, Ibis*, 1873, p. 125; *Hume, Str. F.* 1873, p. 419.

*Adult male.* Bright grass-green; wing-coverts like the back; quills dusky blackish, externally green, the inner secondaries uniform green washed with blue, the primaries yellowish towards the end of the outer web; head all round, hind neck, and entire under surface of body hoary whitish, the feathers edged with light brown, a little darker on the head, fore neck, and breast; hind neck very distinctly streaked with brown and slightly tinted with green; the mantle-feathers green, with yellowish shaft-lines; sides of body and flanks bright green, edged with darker green; thighs and under tail-coverts uniform green; under wing-coverts yellowish buff; quills dusky below, yellowish along the inner web: "bill pale brown, darkening at tip of upper mandible; legs and feet greenish plumbeous; iris dark brown" (*E. A. Butler*). Total length 9·5 inches, culmen 1·35, wing 4·5, tail 2·95, tarsus 1·15.

*Adult female.* Similar to the male. Total length 9 inches, culmen 1·15, wing 4·6, tail 2·9, tarsus 1·1.

*Hab.* Southern India.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Matheran, Feb. 3 (*Hayes Lloyd*). | Tweeddale Coll. (Type of *M. sykesi.*) |
| *b–e.* Ad. sk. | Matheran, April, Nov. | Hume Coll. |
| *f–h.* ♂ ♀ ad. sk. | Mahableshwar, May (*S. B. Fairbank*). | Hume Coll. |
| *i, k.* ♂ ad. sk. | Khandala, March, April (*S. B. Fairbank*). | Tweeddale Coll. |
| *l.* Ad. sk. | Western Ghats, Dec. 17. | Hume Coll. |
| *m.* Ad. sk. | S. Konkan, Nov. 7 (*G. Vidal*). | Hume Coll. |
| *n–p.* ♂ ♀ ad. sk. | Belgaum, Feb., Aug., Oct. (*E. A. Butler*). | Hume Coll. |
| *q–s.* Ad. sk. | Deccan (*Sykes*). | India Museum. |
| *t.* ♂ ad. sk. | Mysore. | Seebohm Coll. |
| *u.* Ad. sk. | Madras. | Dr. Jerdon [P.]. |
| *v.* ♂ ad.; *w.* ♂ imm. sk. | Kotagherry, Nilghiris, June, Dec. (*Miss Cockburn*). | Hume Coll. |
| *x, y.* ♂ ad. sk. | Coonoor, Nilghiris, Jan., April (*W. Davison*). | Hume Coll. |
| *z.* ♀ ad. sk. | Coonoor, Feb. 4 (*F. Day*). | Hume Coll. |
| *a'.* Ad. sk. | Coonoor Ghat, April (*R. G. W. R.*). | Tweeddale Coll. |

| | | |
|---|---|---|
| *b'–g'*. ♂ ad.; *h'–k'*. ♀ ad. sk. | Ootacamund, Nilghiris, Feb.–March (*W. Davison*). | Hume Coll. |
| *l'*. ♂ ad. sk. | Kullar, Nilghiris, Sept. 5. | Hume Coll. |
| *m'*. ♂ ad. sk. | Neddivuttum, Nilghiris. | Hume Coll. |
| *n'*. ♂ ad. sk. | Seegore, Nilghiris, April 28 (*W. Davison*). | Hume Coll. |
| *o'*, *p'*, *q'*. ♂ ad.; *r'*, *s'*, *t'*. ♀ ad. sk. | Wynaad, March–May (*W. Davison*). | Hume Coll. |
| *u'*. ♀ ad. sk. | Mangalore, April 17 (*F. Day*). | Hume Coll. |
| *v'–z'*. ♂ ad. sk. | Cannanore, Sept., Oct. (*R. G. W. R.*). | Tweeddale Coll. |
| *a''*. Ad. sk. | Malabar. | Tweeddale Coll. |
| *b''*. Ad. sk. | Malabar. | Seebohm Coll. |
| *c''*. ♀ ad.; *d''*. ♀ imm. sk. | Periur, Lower Palani Hills, June 14 (*S. B. Fairbank*). | Hume Coll. |
| *e''*. ♂ ad.; ♀ ad.; *f''–k''*. ♂ ♀ juv. sk. | Periur, Lower Palani Hills, June (*S. B. Fairbank*). | Tweeddale Coll. |
| *l''*. Ad. sk. | Travancore, March. | F. W. Bourdillon [C.]. |
| *m''*. ♂ ad. sk. | Cardamum Hills, Travancore, Feb. 21. | Hume Coll. |
| *n''*, *o''*. ♂ ♀ ad. sk. | Mynall, Travancore, Nov. (*F. W. Bourdillon*). | Hume Coll. |
| *p''*. ♂ ad.; *q''–s''*. ♀ ad. sk. | Mynall, Dec. | F. W. Bourdillon [C.]. |
| *t''–x''*. Ad. sk. | Anjango, Travancore, Dec. | Hume Coll. |

## 14. MESOBUCCO.

| | Type. |
|---|---|
| Mesobucco, *Shelley*, *Ibis*, 1889, p. 477 ..... | M. duvauceli. |

*Range.* Eastern Himalayas to Assam, Burma, and Tenasserim, down the Malayan Peninsula.

*Key to the Species.*

| | |
|---|---|
| *a*. Ear-coverts black ..... | *duvauceli*, p. 85. |
| *b*. Ear-coverts blue ..... | *cyanotis*, p. 87. |

### 1. Mesobucco duvauceli.

Bucco australis (*nec Horsf.*), *Raffl. Trans. Linn. Soc.* xiii. p. 285.
Bucco duvauceli, *Less. Traité*, p. 164 (1831).
Bucco trimaculatus, *J. E. Gray*, *Zool. Misc.* p. 3 (1831); *Blyth*, *J. A. S. Beng.* xvi. p. 465 (1847).
Bucco frontalis, *Temm. Pl. Col.* iii. pl. 536. fig. 1 (1832).
Bucco gutturalis, *Boie*, *Briefe Ost-Ind.* no. 15 (1832).
Bucco quadricolor, *Eyton*, *P. Z. S.* 1839, p. 105.
Megalaima trimaculata, *Gray*, *Gen. B.* ii. p. 429 (1846); *Bp. Consp. Av.* i. p. 143 (1850).
Megalaima quadricolor, *Bp. Consp. Av.* i. p. 144 (1850).

Xantholæma duvaucelii, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 647 (1856); *Salvad. Ucc. Borneo*, p. 38 (1874); *Tweedd. Ibis*, 1877, p. 299; *Sharpe, Ibis*, 1879, p. 240; *id. P. Z. S.* 1881, p. 792; *Kelham, Ibis*, 1881, p. 389; *Müller, J. f. O.* 1882, p. 427; *Büttik. Notes Leyden Mus.* ix. p. 16 (1886); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 529 (1887).

Megalaima duvaucelii, *Moore, P. Z. S.* 1859, p. 455; *Goffin, Mus. Pays-Bas*, Buccones, p. 28 (1863); *Gray, List Capit. Brit. Mus.* p. 11 (1868); *id. Hand-l. B.* ii. p. 175, no. 8450 (1870).

Megalæma duvaucelii, *Marshall, Monogr. Capit.* p. 75, pl. 33. figs. 1, 2 (1871); *Sharpe, Ibis*, 1876, p. 35, 1877, p. 9; *Hume, Str. F.* viii. p. 53 (1879).

*Adult male.* General colour above grass-green, with sometimes a tinge of blue; wing-coverts like the back, with the bend of the wing blue; quills blackish, externally green like the back; tail-feathers blue, green on the edges, the centre ones almost entirely green; forehead and sinciput black, forming a broad band; hinder crown and nape dull prussian-blue, inclining to verditer; a loral spot verditer-blue, some of the feathers at the base of the forehead also tipped with verditer; on each side of the head above the ear-coverts a broad streak of crimson; region of the eye, ear-coverts, and fore part of cheeks black, with a broad streak of crimson below the eye and another on the hinder cheeks; throat verditer-blue, followed by a black patch on the lower throat and fore neck, the lower feathers of this patch edged with verditer-blue; remainder of under surface from the fore neck downwards emerald-green, slightly inclining to golden on the breast; on the chest there is generally a tinge of scarlet; under wing-coverts light yellowish green, with the edges of the wing blue. Total length 5·7 inches, culmen 0·7, wing 3, tail 1·65, tarsus 0·8.

*Adult female.* Similar in colour to the male. Total length 5·2 inches, culmen 0·75, wing 3, tail 1·55, tarsus 0·75.

*Young.* Entirely green above and below, with a little yellow on the face and cheeks, and a slight appearance of black on the lower throat; the black on the forehead and all the bright marking of the head and throat absent.

*Hab.* Malayan Peninsula, Sumatra, and Borneo.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Lumut, Dingding River, Feb. 26 (*W. Davison*). | Hume Coll. |
| *b–k.* ♂ ad.; *l–p.* ♀ ad. et imm. sk. | Klang, Salangore, Feb., March, June, July, Sept. (*W. Davison*). | Hume Coll. |
| *q–z.* Ad. et juv. sk. | Malacca, July, Aug., Sept. | Hume Coll. |
| *a′*, *b′*. ♂ ad.; *c′*, *d′*. ♀ ad. et juv. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *e′–i′*. Ad. et juv. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *k′*. ♀ imm. sk. | Johore, Aug. 9 (*W. Davison*). | Hume Coll. |
| *l′*, *m′*. Ad. sk. | Singapore, Nov. | Hume Coll. |
| *n′*. Juv. sk. | Singapore. | Wallace Coll. |

| | | |
|---|---|---|
| *o'–r'*. Ad. sk. | Sumatra. | |
| *s'*. ♂ ad. sk. | Siedjoundjoung, Sumatra, Oct. (*C. Bock*). | Tweeddale Coll. |
| *t'–w'*. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *x'*. Ad. sk. | N.W. Borneo. | Tweeddale Coll. |
| *y'*. ♂ ad. sk. | Sarawak (*A. R. Wallace*). | Tweeddale Coll. |
| *z'*, *a''*. Ad. sk. | Sarawak. | Wallace Coll. |
| *b''*. ♂ ad. sk. | Santabong, Sarawak, March (*A. H. Everett*). | Salvin-Godman Coll. |

## 2. Mesobucco cyanotis.

Bucco australis (*nec Horsf.*), *Blyth, J. A. S. Beng.* xv. p. 13 (1846).

Bucco cyanotis, *Blyth, J. A. S. Beng.* xvi. p. 465 (1847).

Megalaima trimaculata (pt.), *Blyth, Cat. B. Mus. As. Soc.* p. 68 (1849).

Megalaima duvaucelii (pt.), *Gray, List Capit. Brit. Mus.* p. 10 (1868).

Megalæma cyanotis, *Marshall, Monogr. Capit.* p. 77, pl. 33. fig. 3 (1871); *Blyth & Wald. B. Burm.* p. 74 (1875); *Hume, Str. F.* v. p. 27 (1877); *Hume & Davison, Str. F.* vi. pp. 155, 502 (1878); *Hume, Str. F.* viii. pp. 88, 155 (1879); *Tiraud, Bull. Soc. Agric. Cochin Chine*, 1879, p. 91; *Bingham, Str. F.* ix. p. 166 (1880); *Oates, Str. F.* x. p. 192 (1882); *Salvad. Ann. Mus. Civ. Genov.* (2) v. p. 564 (1888).

Cyanops cyanotis, *Jerd. Ibis*, 1872, p. 11.

Xantholæma cyanotis, *Hume, Str. F.* ii. p. 470 (1874); *id. & Oates, Str. F.* iii. p. 77 (1875); *Hume, Str. F.* v. p. 27 (1877); *Oates, Handb. B. Brit. Burm.* ii. p. 137 (1883).

*Adult male*. Similar to *M. duvaucelii*, but distinguished by its entirely blue ear-coverts: "bill black; base of lower mandible slightly tinged reddish horny; legs and feet dirty green, claws bluish black; iris very dark brown" (*W. Davison*). Total length 5·7 inches, culmen 0·7, wing 3·1, tail 1·6, tarsus 0·7.

*Adult female*. Similar to the male, but duller in colour. Total length 5·2 inches, culmen 0·7, wing 2·95, tail 1·65, tarsus 0·75.

*Young*. Nearly all green, without any of the bright colours of the head beyond a little blue on the throat.

*Hab*. Eastern Himalayas into Tenasserim.

| | | |
|---|---|---|
| *a–c*. Ad. sk. | Native Sikhim, March, July, Oct. (*L. Mandelli*). | Hume Coll. |
| *d*, *e*. ♀ ad. sk. | N. Khasia Hills, Jan. (*A. W. Chennell*). | Tweeddale Coll. |
| *f*. Ad. sk. | Assam (*A. W. Chennell*). | Tweeddale Coll. |
| *g*. Ad. sk. | Kamroop, Assam (*A. W. Chennell*). | Tweeddale Coll. |
| *h*. Ad. sk. | Dibrughur. | Tweeddale Coll. |
| *i*. ♂ juv. sk. | Dibrughur, Aug. (*J. R. Cripps*). | Hume Coll. |
| *k*. ♀ ad. sk. | Sadhya, June (*J. Cockburn*). | Hume Coll. |
| *l*. Ad. sk. | Cachar. | Hume Coll. |

| | | |
|---|---|---|
| *m*. Ad. sk. | N. Cachar. | Tweeddale Coll. |
| *n*. ♂ ad. sk. | Commillah, Tipperah. | Hume Coll. |
| *o, p*. Ad. sk. | Karen Hills, Jan., Nov. (*R. G. W. R.*). | Tweeddale Coll. |
| *q*. ♂ ad. sk. | Lower Pegu, May. | Oates Coll. |
| *r*. ♂ ad. sk. | Kyouknyat, Tenasserim, Feb. (*W. Davison*). | Hume Coll. |
| *s*. ♂ ad. sk. | Thoungyeen Forests, March (*C. T. Bingham*). | Hume Coll. |
| *t*. ♂ ad. sk. | Phabya, Feb. (*C. T. Bingham*). | Hume Coll. |
| *u, v*. ♂ ♀ ad. sk. | Foot of N'walabo, April (*W. Davison*). | Hume Coll. |
| *w*. ♂ ad. sk. | Meeta Myo, April (*W. Davison*). | Hume Coll. |
| *x*. ♀ ad. sk. | Tavoy, April (*W. Davison*). | Hume Coll. |
| *y–a'*. ♂ ad. et imm. sk. | Malawun, Jan., April (*W. Davison*). | Hume Coll. |
| *b'*. ♂ ad. sk. | Malawun, March. | Oates Coll. |
| *c', d'*. ♂ ad. sk. | Salang, Feb. (*J. Darling*). | Hume Coll. |
| *e'*. ♂ ad. sk. | Tapraw, April (*J. Darling*). | Hume Coll. |

## 15. XANTHOLÆMA.

Type.

Xantholæma, *Bp. Consp. Vol. Zygod.* p. 12 (1854).. X. hæmatocephala.

*Range.* Indian Peninsula and Ceylon, extending down the Malayan Peninsula to Java, Sumatra, and the Philippine Islands.

*Key to the Species.*

*a*. Throat yellow; a crimson spot on the fore neck.
  *a'*. Sides of body streaked; cheeks black like ear-coverts..... *hæmatocephala*, p. 89.
  *b'*. Sides of body emerald-green like the breast, not streaked; cheeks verditer-blue like the ear-coverts..... *rubricapilla*, p. 93.
*b*. Throat blue; crown blue; ear-coverts green; a yellow patch below the eye ..... *australis*, p. 94.
*c*. Throat crimson.
  *c'*. Flanks green, with darker green centres; hinder cheeks verditer-blue; fore parts of cheeks crimson ..... *malabarica*, p. 95.
  *d'*. Flanks yellow, streaked with green; fore part of cheeks black; hinder cheeks dull iron-grey.
    *a''*. Cheek-band bordering the red of throat jet-black; throat never mottled with yellow..... *rosea*, p. 96.
    *b''*. Cheek-band bordering the red of throat olive-grey; red of throat and near the eye often mottled with yellow ..... *intermedia*, p. 97.

### 1. Xantholæma hæmatocephala.

Le Barbu des Philippines, *Briss. Orn.* iv. p. 99 (1760); *Daubent. Pl. Enl.* vii. pl. 331.
Bucco hæmacephalus, *P. L. S. Müll. S. N.*, Anhang, p. 88 (1776, *ex Daubent.*); *Cass. Proc. Acad. Phil.* 1864, p. 242.
Barbu à gorge jaune, *Buff. Hist. Nat. Ois.* vii. p. 102, pl. 5 (1780).
? Le Petit Barbu, *Buff. Hist. Nat. Ois.* vii. p. 105 (1780), Senegal!
? Barbu du Sénégal, *Daubent. Pl. Enl.* vii. pl. 746. fig. 2.
Yellow-throated Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 500 (1782).
Little Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 503 (1782).
Buff-faced Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 504, pl. xxii. (1782).
Bucco flavigula, *Bodd. Tabl. Pl. Enl.* p. 20 (1783, *ex Daubent.*).
? Bucco nanus, *Bodd. Tabl. Pl. Enl.* p. 47 (1783, *ex Daubent.*).
Indian Barbet, *Lath. Gen. Syn. Suppl.* i. p. 97 (1787).
Bucco philippinensis, *Gm. Syst. Nat.* i. p. 407 (1788, *ex Briss.*); *Raffl. Trans. Linn. Soc.* xiii. p. 283 (1820); *Less. Traité*, p. 163 (1831).
? Bucco parvus, *Gm. Syst. Nat.* i. p. 407 (1788, *ex Buff.*).
Bucco lathami, *Gm. Syst. Nat.* i. p. 408 (1788).
Bucco indicus, *Lath. Ind. Orn.* i. p. 205 (1790).
Le Barbu à collier rouge, *Levaill. Hist. Nat. Barbus*, ii. p. 78, pl. 33 (1806).
Le Barbu à plastron rouge, *Levaill. Hist. Nat. Barbus*, ii. p. 81, pl. 36 (1806).
Capito lathami, *Vieill. N. Dict.* iv. p. 499 (1816).
Capito flavicollis, *Bonn. et Vieill. Enc. Méth.* p. 1424 (1823).
Bucco rubricollis, *Cuv. Règne Anim.* i. p. 457 (1829, *ex Levaill.*).
Bucco luteus, *Less. Traité*, p. 163 (1831), var.; *Des Murs, Icon. Orn.* pl. 21.
Bucco rafflesius (*nec Less.*), *Boie, Brief. Ost-Ind.* no. 15 (1832).
Megalaima philippensis, *Gray, Gen. B.* ii. p. 429 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 68 (1849); *Bp. Consp. Av.* i. p. 144 (1850).
? Megalaima parva, *Gray, Gen. B.* ii. p. 430 (1846).
Megalaima lathami, *Gray, Gen. B.* ii. p. 429 (1846).
Megalaima rafflesius, *Bp. Consp. Av.* i. p. 144 (1850); *Gray, Hand-l. B.* ii. p. 175, no. 8452 (1870).
Xantholæma philippensis, *Bp. Consp. Volucr. Zygod.* p. 12 (1854).
Xantholæma flavigula, *Bp. Consp. Volucr. Zygod.* p. 12 (1854).
Xantholæma indica, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 644 (1856); *Gould, P. Z. S.* 1859, p. 151; *Jerd. B. Ind.* i. p. 315 (1862); *Beavan, Ibis*, 1865, p. 412; *Blyth, Ibis*, 1866, p. 359; *Beavan, Ibis*, 1869, p. 416; *Godw.-Aust. J. A. S. Beng.* xxxix. p. 267 (1870); *Stol. t. c.* p. 289 (1870); *Wald. Ibis*, 1871, p. 162; *Holdsw. P. Z. S.* 1872, p. 430; *Jerd. Ibis*, 1872, p. 12; *Hume, Nests & Eggs Ind. B.* p. 131 (1873).
Megalaima indica, *Moore, P. Z. S.* 1859, p. 454.
Megalæma philippensis, *Irby, Ibis*, 1861, p. 229; *Schomb. Ibis*, 1864, p. 258; *Von Martens, J. f. O.* 1866, p. 20.
Megalaima flavigula, *Goffin, Mus. Pays-Bas*, Buccones, p. 24 (1863); *Snelleman in Veth's Midden-Sumatra, Vog.* p. 35 (1885).
Megalaima rubrifrons, *Gray, List Capit. Brit. Mus.* p. 11 (1868); *id. Hand-l. B.* ii. p. 175, no. 8453 (1870).

Megalaima hæmacephala, *Gray, Hand-l. B.* ii. p. 175, no. 8448 (1870).

Xantholæma hæmatocephala, *Marshall, Monogr. Capit.* p. 101, pl. 42 (1871).

Xantholæma hæmacephala, *Hayes Lloyd, Ibis*, 1873, p. 407; *Blyth & Wald. B. Burm.* p. 74 (1875); *Wald. Tr. Z. S.* ix. p. 156 (1877); *Tweed. Ibis*, 1877, p. 299; *id. P. Z. S.* 1877, pp. 690, 823; *id. P. Z. S.* 1878, p. 944; *Ball, Str. F.* vii. p. 206 (1878); *Cripps, t. c.* p. 264; *Legge, B. Ceylon*, i. p. 218 (1879); *Hume, Str. F.* 1879, pp. 53, 58; *Scully, t. c.* p. 253; *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 180 (1879); *Vidal, Str. F.* ix. p. 54 (1880); *Bingham, t. c.* p. 166; *Butler, t. c.* p. 387; *Wardlaw Ramsay, Tweedd. Mem.* p. 656 (1881); *Kelham, Ibis*, 1881, p. 390; *Nicholson, Ibis*, 1883, p. 243; *Oates, Handb. B. Brit. Burm.* ii. p. 136 (1883); *Murray, Vertebr. Faun. Sind*, p. 116 (1884); *Swinh. & Barnes, Ibis*, 1885, p. 63; *Büttik. Notes Leyden Mus.* ix. p. 16 (1886); *Reid, Cat. Lucknow Mus.* p. 31 (1886); *id. Str. F.* x. p. 26 (1887); *Davison, t. c.* pp. 299, 358; *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 577 (1887), v. p. 564 (1888).

Xantholæma rafflesii, *Tiraud, Bull. Soc. Agric. Coch. Ch.* 1879, p. 91.

*Adult male.* General colour above olive-green, with a yellowish shade, many of the feathers being edged with yellow; lesser wing-colours grass-green, as also the outer median and greater coverts, which otherwise resemble the back; bastard-wing, primary-coverts, and quills blackish, externally grass-green, the primaries yellowish towards the end of the outer web, the inner secondaries like the back; tail-feathers green above, bluish beneath; a broad frontal band of scarlet, followed by a black band across the crown; the occiput, nape, and hind neck rather more bluish green; lores black; a narrow streak above the eye and a broad one below the latter bright sulphur-yellow; sides of face, cheeks, and ear-coverts black, in continuation of the black band of the crown; hinder cheeks and hinder ear-coverts washed with bluish green; throat bright sulphur-yellow; sides of the neck green, washed with bluish grey; lower throat mixed with black; fore neck bright scarlet, followed by a shade of bright golden yellow on the chest; rest of the under surface pale yellow, streaked with green centres to the feathers of the sides of the body, flanks, and under tail-coverts; centre of breast and abdomen yellowish white; under wing-coverts pale yellow, green on the edge of the wing; quills below dusky, yellowish along the inner edge: "bill dark horny slate-colour, pale at the base of both mandibles; legs and feet deep coral-pink: iris dark brown, with a pale or pearly-grey outer circle" (*W. V. Legge*). Total length 6·4 inches, culmen 0·65, wing 3·35, tail 1·6, tarsus 0·8.

*Adult female.* Similar to the male, but the colours not quite so vivid. Total length 5·8 inches, culmen 0·7, wing 3·25, tail 1·4, tarsus 0·75.

*Young.* Differs from the adult in wanting the scarlet on the head and the bright colours of the underparts. Uniform green above,

with yellowish-white edgings to the wing-coverts and secondaries; a pale yellow mark above and below the eye; cheeks and ear-coverts blackish; throat and abdomen pale yellow; fore neck and breast dull green, the breast and sides of body narrowly streaked with green.

*Hab.* Ceylon and the Indian Peninsula, extending throughout the Burmese countries down the Malayan Peninsula to Sumatra and the Philippines.

| | | |
|---|---|---|
| *a–d.* ♂ ♀ ad. sk. | Ceylon. | |
| *e.* Ad. sk. | Anjango, Travancore, Dec. | Hume Coll. |
| *f.* Ad. sk. | Malabar. | Tweeddale Coll. |
| *g, h.* Ad. sk. | Calicut. | Hume Coll. |
| *i.* Ad. sk. | Coorg. | Tweeddale Coll. |
| *k.* ♂ ad. sk. | Sultan's Battery, Wynaad, April 4 (*W. Davison*). | Hume Coll. |
| *l.* ♂ ad. sk. | Coonoor Ghat, Sept. 23 (*R. G. W. R.*). | Tweeddale Coll. |
| *m, n.* ♂ ♀ ad. sk. | Seegore, Nilghiris, Feb. 20 (*W. Davison*). | Hume Coll. |
| *o.* ♂ ad. sk. | Kotagherry, Nilghiris, April 12 (*Miss Cockburn*). | Hume Coll. |
| *p–w.* ♂ ♀ ad. sk. | Bangalore, April, May, Sept.–Nov. (*R. G. W. R.*). | Tweeddale Coll. |
| *x.* Ad. sk. | Madras. | Rev. H. H. Baber [P.]. |
| *y.* Ad. sk. | Madras, April (*W. Davison*). | Hume Coll. |
| *z.* ♂ ad. sk. | Madras, June 14 (*R. G. W. R.*). | Tweeddale Coll. |
| *a′.* ♀ ad. sk. | Pothanore, Oct. 13. | Hume Coll. |
| *b′, c′.* Ad.; *d′.* Imm. sk. | Deccan (*Sykes*). | India Museum. |
| *e′, f′, g′.* ♂ ad.; *h′.* ♀ ad. sk. | Belgaum, Feb., May, June, Oct. (*E. A. Butler*). | Hume Coll. |
| *i′.* ♀ juv. sk. | Khandala, April 20 (*S. B. Fairbank*). | Tweeddale Coll. |
| *k′–n′.* ♂ ad.; *o′–r′.* ♀ ad. sk. | Ahmednuggur, Jan., Sept., Oct., Dec. (*S. B. Fairbank*). | Tweeddale Coll. |
| *s′.* Ad. sk. | Matheran, Nov. 1. | Hume Coll. |
| *t′.* ♂ ad. sk. | Mahableshwar, May 26 (*S. B. Fairbank*). | Hume Coll. |
| *u′–w′.* Ad. sk. | Khandeish. | Tweeddale Coll. |
| *x′–b″.* ♂ ad.; *c″.* ♀ ad. sk. | Khandeish, Dec. (*J. Davidson*). | Hume Coll. |
| *d″.* ♀ ad. sk. | Mhow, Dec. 15. | Colonel Swinhoe [P.]. |
| *e″–i″.* Ad. sk. | Kamptee. | Dr. R. B. Hinde [P.]. |
| *k″.* Ad. sk. | Raipur. | Hume Coll. |
| *l″, m″.* ♂ ♀ ad. sk. | Maunbhoom, Dec. 20 (*R. C. Beavan*). | Tweeddale Coll. |
| *n″.* ♂ ad.; *o″.* ♀ juv. sk. | Calcutta, Jan., Aug. | Hume Coll. |
| *p″.* Ad. sk. | Saugor. | Hume Coll. |
| *q″, r″.* ♂; *s″.* ♀ ad. sk. | Deesa, Feb., March (*E. A. Butler*). | Hume Coll. |

| | | |
|---|---|---|
| *t''*. Ad. sk. | Mt. Aboo. | Colonel Butler [P.]. |
| *w''–w''*. ♂ ad.; *x''*. ♂ juv. sk. | Sambhur, Jan., Feb., April (*R. M. Adam*). | Hume Coll. |
| *y''–a*³. Ad. sk. | Delhi. | Hume Coll. |
| *b*³. ♂ ad. sk. | Delhi, Feb. 8 (*C. T. Bingham*). | Hume Coll. |
| *c*³, *d*³, *e*³. ♂ ad. sk. | Gurgaon, Feb., March (*W. N. Chill*). | Hume Coll. |
| *f*³, *g*³. ♂ ad. sk. | Umbala, Nov. (*R. C. Beavan*). | Tweeddale Coll. |
| *h*³. Ad. sk. | Lahore, March. | Hume Coll. |
| *i*³. Juv. sk. | Himalayas, Dec. 2 (*J. A. Farrell*). | Gould Coll. |
| *k*³, *l*³. ♂ ad.; *m*³. ♀ ad. sk. | Dehra Dhoon. | Hume Coll. |
| *n*³. ♀ ad. sk. | Bareilly, May 9. | Hume Coll. |
| *o*³, *p*³, *q*³. Ad. sk. | Sarun district, Etawah. | Hume Coll. |
| *r*³, *s*³. ♂ ad.; *t*³. ♀ ad. sk. | Futtehgurh district, Jan., April (*A. Anderson*). | Seebohm Coll. |
| *u*³. ♀ ad. sk. | Jhansi district, Oct. 12. | Hume Coll. |
| *v*³, *w*³. ♂ ad. sk. | Allahabad, Feb., Dec. | Hume Coll. |
| *x*³. Ad. sk. | Oudh. | Tweeddale Coll. |
| *y*³. Ad. sk. | Oudh. | Hume Coll. |
| *z*³. Ad. st. | Behar. | Hodgson Coll. |
| *α*. Ad. sk. | Behar (*B. H. Hodgson*). | India Museum. |
| *β*, *γ*, *δ*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *ε*. ♂ ad.; *ζ*. Juv. sk. | Nepal Valley, June, Nov. (*J. Scully*). | Hume Coll. |
| *η*. Ad. sk. | Sikhim Terai, March (*L. Mandelli*). | Hume Coll. |
| *θ*. Juv. sk. | Darjeeling. | Tweeddale Coll. |
| *ι*. Ad. sk. | Bhotan Terai, Jan. (*L. Mandelli*). | Hume Coll. |
| *κ*. Ad. sk. | Bhotan Doars, Feb. (*L. Mandelli*). | Hume Coll. |
| *λ*. Ad. sk. | Assam (*McClelland*). | India Museum. |
| *μ*. Ad. sk. | Upper Assam. | R. B. Sharpe, Esq. [P.]. |
| *ν*. Ad. sk. | Khasia Hills. | Tweeddale Coll. |
| *ξ*. ♂ ad. sk. | Lakipur, Cachar, Jan. 1 (*A. O. H.*). | Hume Coll. |
| *o*, *π*. Ad. sk. | Dacca. | Hume Coll. |
| *ρ*. Ad. sk. | Thayetmyo district (*E. W. Oates*). | Hume Coll. |
| *σ*, *τ*. ♂ ad. sk. | Borougho Island, March (*J. Armstrong*). | Hume Coll. |
| *υ*. ♂ ad. sk. | Elephant Point, Rangoon, Dec. 7 (*J. Armstrong*). | Hume Coll. |
| *φ*. ♂ ad. sk. | Rangoon, Oct. | Oates Coll. |
| *χ*. ♂ ad. sk. | Rangoon, Dec. 7 (*R. G. W. R.*). | Tweeddale Coll. |
| *ψ*, *ω*. ♂ ♀ ad. sk. | Karen-nee, March 28 (*R. G. W. R.*). | Tweeddale Coll. |
| *α'–ε'*. ♂ ad.; *ζ'–η'*. ♀ ad. sk. | Tonghoo, April, June, Nov., Dec. (*R. G. W. R.*). | Tweeddale Coll. |
| *θ'*. ♂ ad. sk. | Tonghoo, Oct. | Hume Coll. |
| *ι'*. ♂ ad. sk. | Pahpoon, Jan. 21 (*W. Davison*). | Hume Coll. |

| | | |
|---|---|---|
| $\kappa'$–$\xi'$. ♂ ad.; $o'$, $\pi'$, $\rho'$. ♀ ad. sk. | Moulmein, Feb., March, Nov., Dec. (*W. Davison*). | Hume Coll. |
| $\sigma'$–$\upsilon'$. ♂ ad. sk. | Amherst, March, June, July (*W. Davison*). | Hume Coll. |
| $\phi'$, $\chi'$. ♂ ad. sk. | Thatone, Oct. 25 (*W. Davison*). | Hume Coll. |
| $\psi'$. ♂ imm. sk. | Tavoy, May 13 (*W. Davison*). | Hume Coll. |
| $\omega'$. ♀ ad. sk. | Mergui, Dec. 8 (*W. Davison*). | Hume Coll. |
| $a''$. ♂ ad. sk. | Pakchan, Jan. 26 (*W. Davison*). | Hume Coll. |
| $\beta''$. ♂ ad. sk. | Bangkok, Siam, March 30. | R. Bowdler Sharpe, Esq. [P.]. |
| $\gamma''$–$\zeta''$. ♂ ad. et juv.; $\eta''$. ♀ ad. sk. | Kossoom, April, May (*J. Darling*). | Hume Coll. |
| $\theta''$–$\kappa''$. ♂ ad. sk. | Island of Tonka, Jan. (*J. Darling*). | Hume Coll. |
| $\lambda''$, $\mu''$. ♂ ad. sk. | Taroar, Feb. (*J. Darling*). | Hume Coll. |
| $\nu''$–$\tau''$. ♂ ad. et juv.; $\upsilon''$–$\omega''$. ♀ ad. et juv. sk. | Salang, Feb., March (*J. Darling*). | Hume Coll. |
| $a^3$, $\beta^3$. ♂ ♀ ad. sk. | Poongah, Aug. (*J. Darling*). | Hume Coll. |
| $\gamma^3$. Ad. sk. | Keddah (*Dr. Cantor*). | India Museum. |
| $\delta^3$. Ad. sk. | Province Wellesley (*Dr. Cantor*). | India Museum. |
| $\epsilon^3$. Ad. sk. | Sumatra. | Wallace Coll. |
| $\zeta^3$. Ad. sk. | Acheen, Sumatra, Feb. 4 (*W. Davison*). | Hume Coll. |
| $\eta^3$–$\kappa^3$. Ad. sk. | Sumatra (*Carl Bock*). | Tweeddale Coll. |
| $\lambda^3$. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| $\mu^3$, $\nu^3$. Ad.; $\xi^3$. Juv. sk. | Philippine Islands. | Gould Coll. |
| $o^3$, $\pi^3$. ♂ ad.; $\rho^3$–$\tau^3$. ♀ ad. sk. | Luzon, Jan., Feb., April (*A. B. Meyer*). | Tweeddale Coll. |
| $\upsilon^3$, $\phi^3$. ♂ ad.; $\chi^3$. ♀ ad. sk. | Monte Alban, Luzon, March (*A. H. Everett*). | Tweeddale Coll. |
| $\psi^3$. ♀ ad. sk. | Surigao, N. Mindanao, May (*A. H. Everett*). | Tweeddale Coll. |
| $\omega^3$. ♀ juv. sk. | Placer, N. Mindanao, July (*A. H. Everett*). | Tweeddale Coll. |
| $a^4$. ♂ ad. sk. | Zamboanga, Mindanao, March (*A. H. Everett*). | Tweeddale Coll. |

## 2. Xantholæma rubricapilla.

The Red-crown Barbet, *Brown, Ill. Zool.* p. 30, pl. 14 (1776); *Lath. Gen. Syn.* i. pt. 2, p. 505 (1782).

Bucco rubricapillus, *Gm. Syst. Nat.* i. p. 408 (1788).

Le Barbu Barbichon, *Levaill. Hist. Nat. Barbus*, ii. p. 131, pl. 56 (1806).

Capito rubricapillus, *Vieill. N. Dict. Hist. Nat.* iv. p. 497 (1816).

Bucco barbiculus, *Cuv. Règne Anim.* i. p. 428, note (1817).

Megalaima rubricapilla, *Gray, Gen. B.* ii. p. 429 (1849); *Blyth, Cat. B. Mus. As. Soc.* p. 68 (1849); *Bp. Consp.* i. p. 144 (1850);

*Kelaart. Prodr. Cat.* p. 127 (1852); *Layard, Ann. & Mag. Nat. Hist.* xiii. p. 448 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 646 (1854); *Goffin, Mus. Pays-Bas*, Buccones, p. 26 (1863); *Gray, List Capit. Brit. Mus.* p. 9 (1868); *id. Hand-l. B.* ii. p. 174, no. 8446 (1870).

Xantholæma rubricapilla, *Blyth, Ibis*, 1867, p. 297; *Marshall, Monogr. Capit.* p. 109, pl. 44 (1871); *Holdsw. P. Z. S.* 1872, p. 430; *Legge, Ibis*, 1874, p. 15; *Hume, Str. F.* vii. p. 370 (1878), 1879, p. 88; *Legge, B. Ceylon*, p. 215, pl. xi. fig. 1 (1879).

*Adult male.* Resembles *X. malabarica* in having the blue shade on the sides of the face and neck, and has the head similar, but differs in having a narrow black line across the base of the forehead; also in having the lores and throat, as well as a spot above and another below the eye, orange-yellow; the lower throat mixed with black and followed by a scarlet spot on the fore neck: "bill black, pale beneath at the base; legs and feet opaque coral-red, claws blackish; orbital skin dull red; iris brown or reddish brown" (*W. V. Legge*). Total length 5·5 inches, culmen 0·65, wing 3, tail 1·4, tarsus 0·75.

*Adult female.* Similar to the male. Total length 6 inches, culmen 0·65, wing 3, tail 1·45, tarsus 0·7.

*Hab.* Ceylon.

| | | |
|---|---|---|
| *a.* Ad. sk. | Ceylon. | T. Thwaites, Esq. [C.] |
| *b–h.* Ad. et imm.; *i–m.* ♀ ad. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *n, o.* ♂ ad. sk. | Gampala, Feb. (*H. Nevill*). | Tweeddale Coll. |
| *p.* ♂ ad. sk. | Valadora, April 22 (*S. Chapman*). | Tweeddale Coll. |
| *q.* Ad. sk. | Ambapassa, July 8 (*S. Chapman*). | Tweeddale Coll. |
| *r, s.* Ad. sk. | Dambookke, July (*S. Chapman*). | Tweeddale Coll. |
| *t, u.* ♀ ad. sk. | Awisawella, Dec. (*S. Chapman*). | Tweeddale Coll. |
| *v, w.* ♂ ♀ ad. sk. | Hangwella, Dec. (*S. Chapman*). | Tweeddale Coll. |
| *x–z.* ♂ ad. sk. | Ragam Corale, April and May (*Messrs. Hart*). | Hume Coll. |
| *a'.* ♂ ad. sk. | Colombo, Oct. 31 (*W. V. Legge*). | Hume Coll. |
| *b', c'.* ♂ ♀ ad. sk. | Balapetya. | Hume Coll. |
| *d'.* ♀ ad. sk. | Galle, May (*R. Swinhoe*). | Seebohm Coll. |
| *e'.* ♀ ad. sk. | South Ceylon, June 27 (*W. V. Legge*). | Seebohm Coll. |

### 3. Xantholæma australis.

Bucco australis, *Horsf. Trans. Linn. Soc.* xiii. p. 101 (1820); *Hartl. Rev. Zool.* 1842, p. 337; *Blyth, J. A. S. Beng.* xvi. p. 446 (1847).

Bucco cyanocephalus, *Reinw. Batav. Courant*, Feb. 1820.

Bucco gularis, *Temm. Pl. Col.* iii. pl. 89. fig. 2 (1824).

Megalaima australis, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp.* i. p. 143 (1850); *Gray, P. Z. S.* 1860, p. 358; *Goffin, Mus. Pays-Bas*, Buccones, p. 29 (1863); *Gray, List Capit. Brit. Mus.* p. 11 (1868); *id. Hand-l. B.* ii. p. 174, no. 8449 (1870).

Xantholæma australis, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 648 (1856).

Megalæma australis, *Marshall, Monogr. Capit.* p. 73, pl. 32; *Nicholson, Ibis*, 1881, p. 142.

*Adult male.* General colour above grass-green with a slight wash of blue, the wings a little lighter green than the back, with a decided blue shade on the carpal bend, primary-coverts, and outer edge of the primaries; tail bluish above and below, the centre feathers washed with green; forehead and vertex blue, slightly spangled with small central spots of cobalt; over the eye a streak of cobalt; ear-coverts light green, with a slight yellowish tinge on the hinder cheeks; fore part of cheeks with a spot of bright yellow; throat verditer-blue, with paler blue central lines; the blue throat followed by a black patch on the lower throat, which is followed by a shade of bright yellow on the fore neck, which gradually shades off into the green of the rest of the underparts; under wing-coverts yellowish buff; quills dusky below, yellowish buff along the inner edges. Total length 6·2 inches, culmen 0·7, wing 2·9, tail 2·1, tarsus 0·7.

*Adult female.* Similar to the male, but not so brightly coloured. Total length 6·5 inches, culmen 0·7, wing 2·9, tail 1·65, tarsus 0·7.

*Hab.* Java.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | E. Java. | Wallace Coll. |
| *c.* Ad. sk. | E. Java. | Tweeddale Coll. |
| *d.* Ad. sk. | Java. | Tweeddale Coll. |
| *e.* ♂ ad. sk. | Java (*Diard*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Java (*Dr. Horsfield*). | India Museum. (Type of species.) |
| *g.* Ad. sk. | [Java.] | Gould Coll. |

## 4. Xantholæma malabarica.

Bucco barbiculus (*nec Cuv.*), *Blyth, J. A. S. Beng.* xv. p. 13 (1846); *Jerd. Madr. Journ.* xiii. p. 140 (1844).

Bucco malabarica, *Blyth, J. A. S. Beng.* xvi. pp. 386, 465 (1847).

Megalaima malabarica, *Blyth, Cat. B. Mus. As. Soc.*, App. p. 336 (1849); *Goffin, Mus. Pays-Bas*, Buccones, p. 27, note (1863); *Gray, List Capit. Brit. Mus.* p. 9 (1868); *id. Hand-l. B.* ii. p. 175, no. 8451 (1870).

Xantholæma malabarica, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 647 (1856); *Jerd. B. Ind.* i. p. 317 (1862); *id. Ibis*, 1872, p. 12; *Hume, Str. F.* iv. p. 392 (1876), viii. p. 88 (1879); *Vidal, Str. F.* ix. p. 54 (1880); *Butler, t. c.* p. 387; *id. Cat. B. S. Bomb. Pres.* p. 26 (1880); *Reid, Cat. Lucknow Mus.* p. 38 (1886).

Megalæma malabarica, *Fairb. Str. F.* iv. p. 225 (1876); *Davison, Str. F.* x. p. 358 (1877).

*Adult male.* General colour above grass-green, with paler green

edges to the feathers; wing-coverts like the back, the external ones a little more bluish green; bastard-wing, primary-coverts, and quills blackish, externally green; the primaries yellowish towards the end of the outer web; inner secondaries like the back; tail-feathers green above, bluish below; a broad frontal band and a streak above and below the eye crimson; across the vertex a narrower band of black, extending to behind the eye and in a narrow line behind the red spot below the latter; loral band extending down the throat entirely black; sides of the face, ear-coverts, and cheeks light hoary blue, the fore part of the cheeks with a crimson spot, followed by a shade of bright yellow, which also skirts the throat, which is bright crimson, mixed with black on the lower throat, and is followed by a shade of bright yellow on the fore neck; remainder of the under surface of body pale green, mottled with darker green centres to the feathers of the sides of the breast, sides of body, and flanks; thighs and under tail-coverts light green; under wing-coverts and axillaries yellowish, green near the edge of the wing; quills below dusky, yellowish along the inner edge. Total length 6·3 inches, culmen 0·6, wing 3·25, tail 1·35, tarsus 0·75.

*Adult female.* Similar to the male. Total length 6 inches, culmen 0·6, wing 3·05, tail 1·55, tarsus 0·75.

*Young.* Green all over, with a yellow tinge on the forehead and a wash of orange on the throat and sides of the face; breast and abdomen pale green.

*Hab.* Southern India.

| | | |
|---|---|---|
| *a*. Ad. sk. | S. India. | Eyton Coll. |
| *b*. ♀ ad. sk. | Cardamum Hills, Travancore, Feb. 21 (*H. J. Elwes*). | Hume Coll. |
| *c*. ♀ juv. sk. | Kendara, West base of Palani Hills, April 15 (*S. B. Fairbank*). | Tweeddale Coll. |
| *d*. ♀ ad. sk. | Western Ghats, Mysore, July 2. | Hume Coll. |
| *e–p*. ♂ ad. et juv.; *q–v*. ♀ ad. et juv. sk. | Wynaad, March–May, Dec. (*W. Davison*). | Hume Coll. |
| *w*. ♂ ad. sk. | Karoli, Wynaad, May 13 (*W. Davison*). | Hume Coll. |
| *x–a'*. ♂ ad. sk. | Tillichiri, Madras, Oct. (*R. G. W. R.*). | Tweeddale Coll. |
| *b'–g'*. Ad. sk. | Chawachiri, Madras, Aug. & Oct. (*R. G. W. R.*). | Tweeddale Coll. |
| *h'*. Ad. sk. | Madras (*Wright*). | India Museum. |

### 5. Xantholæma rosea.

Le Barbu rose-gorge, *Levaill. Hist. Nat. Ois. Paradis*, ii. p. 75, 33 (1806).

Bucco roseus, *Dumont, Dict. Sci. Nat.* (1st ed.) iv. p. 52 (1806, *ex Levaill.*); *Cuv. Règne An.* i. p. 428 (1817).

Capito rosaceicollis, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 500 (1816).
Bucco philippensis (*nec Gm.*), *Horsf. Trans. Linn. Soc.* xiii. p. 181 (1820).
Bucco roseicollis, *Vigors, Mem. Raffl.* p. 667 (1830).
Megalaima rosea, *Gray, Gen. B.* ii. p. 429 (1846); *Bp. Consp. Av.* i. p. 14 (1850); *Goffin, Mus. P.-B.* Buccones, p. 27 (1863); *Gray, Hand-l. B.* ii. p. 174, no. 8445 (1870).
Xantholæma rosea, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 646 (1856); *Marshall, Monogr. Capit.* p. 107, pl. 43 (1871); *Walden, Tr. Z. S.* ix. p. 157 (1875); *id. Ibis*, 1877, p. 299; *Nicholson, Ibis*, 1881, p. 142; *Vorderm. Nat. Tijdschr. Nederl. Ind.* xli. p. 187 (1882); *id. op. cit.* xlvi. p. 71 (1887).

*Adult male.* Similar to *X. hæmatocephala*, but distinguished by the crimson streak below the eye and also by the crimson throat: "bill black, the naked orbital skin red; feet greenish yellow, the claws black; iris dark brown" (*Dr. Vorderman*). Total length 5·5 inches, culmen 0·7, wing 3·1, tail 1·35, tarsus 0·7.

*Adult female.* Similar to the male. Total length 5·5 inches, culmen 0·7, wing 2·85, tail 1·25, tarsus 0·7.

*Young.* Green like the young of *X. hæmatocephala*, but with the throat tinged with red instead of yellow.

*Hab.* Java, Sumatra, and Bali.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *c–e.* Ad. sk. | Java. | Tweeddale Coll. |
| *f.* Ad. sk. | Java. | Seebohm Coll. |
| *g, h.* Ad. sk. | Java. | Gould Coll. |
| *i, k.* Ad.; *l, m,* Juv. sk. | Java (*Horsfield*). | India Museum. |
| *n, o.* ♂ ♀ ad. sk. | Java (*Leiden Museum*). | Salvin-Godman Coll. |
| *p.* Ad.; *q.* Imm.; *r, s.* Juv. sk. | West Java (*Buxton*). | F. Nicholson, Esq. [P.]. |
| *t.* Ad. sk. | East Java. | Wallace Coll. |
| *u.* Ad. sk. | East Java (*A. R. Wallace*). | Tweeddale Coll. |
| *v.* ♀ ad. sk. | Bali. | Wallace Coll. |

## 6. Xantholæma intermedia.

Xantholæma rosea (*nec Dum.*), *Walden, Ibis*, 1872, p. 100; *id. Tr. Z. S.* ix. pp. 131, 157, 250 (1875); *Tweeddale, P. Z. S.* 1877, p. 758, 1878, p. 283.

*Adult male.* Very similar to *X. rosea*, but differs in the upper parts being uniform green with no pale edges to the feathers; the cheek-band is in front black, passing into olive-grey down the sides of the red throat; under surface of the body more strongly marked with brighter green centres to the feathers: "iris brown: feet coral; bill black" (*L. C. Layard*). Total length 6·6 inches, culmen 0·8, wing 3·2, tail 1·75, tarsus 0·85.

*Adult female.* Similar to the male, but with the eye-spot and

throat much mottled with yellow. Total length 5·7 inches, culmen 0·9, wing 3·2, tail 1·4, tarsus 0·75.

*Not fully adult.* Differs from the fully adult in having the eye-marks and the lower throat intermixed and streaked with yellow: "bill black; legs and feet coral-red; iris hazel-brown" (*A. Everett*). Total length 5·8 inches, culmen 0·85, wing 3·2, tail 1·3, tarsus 0·95.

*Hab.* Islands of Negros and Cebu, Philippines.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Negros, Feb. (*L. C. Layard*). | Tweeddale Coll. |
| *b.* ♂ imm. sk. | Valencia, Negros, Aug. (*A. H. Everett*). | Tweeddale Coll. |
| *c, d.* ♂ ♀ ad. sk. | Cebu, April (*A. H. Everett*). | Tweeddale Coll. |

## 16. PSILOPOGON.

| | Type. |
|---|---|
| Psilopogon, *S. Müller, Tijdschr. Nat. Gesch. Phys.* ii. p. 339 (1835) | P. pyrolophus. |
| Pseudobucco, *Des Murs, Encycl. Hist. Nat.* ii. p. 24 (1849) | P. pyrolophus. |
| Buccotrogon, *Von Kreling, Jahr. Nat. Gesch. Emden*, 1852, p. 20 | P. pyrolophus. |

*Range.* Mountains of Malayan Peninsula and Highlands of Sumatra.

### 1. Psilopogon pyrolophus.

Psilopogon pyrolophus, *S. Müller, Tijdschr. Nat. Gesch. Phys.* ii. p. 339 (1835); *Gray, Gen. B.* ii. p. 431 (1846); *Bp. Consp. Av.* i. p. 141 (1850); *Marshall, Monogr. Capit.* p. 133, pl. 53 (1870); *Gray, Hand-l. B.* ii. p. 177, no. 8487 (1870); *Nicholson, Ibis*, 1883, p. 243; *Sharpe, P. Z. S.* 1886, p. 352; *id. P. Z. S.* 1887, p. 442; *Büttik. Notes Leyden Mus.* ix. p. 14 (1887).

Pseudobucco pyrolophus, *Des Murs, Encycl. Hist. Nat.* ii. p. 24 (1849).

Buccotrogon torquatus, *Von Kreling, Jahr. Nat. Gesch. Emden*, p. 20 (1852).

Megalaima pyrolopha, *Goffin, Mus. Pays-Bas*, Buccones, p. 37 (1863); *Snelleman, in Veth's Midden-Sumatra, Vog.* 1885, p. 35.

*Adult male.* General colour above grass-green; tail-coverts, wing-coverts, and secondaries green like the back; primaries dusky blackish, externally green, yellow towards the ends of the outer web; tail-feathers green above, bluish below; hinder crown, hind neck, and sides of neck brown with a greenish wash; forehead, lores, and nasal bristles black, the latter tipped with scarlet; across the centre of the crown a broad band of hoary grey; sides of face, ear-coverts, and cheeks cindery grey; above the ear-coverts a streak of emerald-green, beginning above the eye; upper eyelid yellow, the lower one emerald-green; base of cheeks and chin

black; throat emerald-green, followed by a band of bright yellow on the fore neck, inclining to whitish on the sides of the neck; the chest black, forming a band below the yellow throat; breast and remainder of under surface emerald-green, paler on the centre of the body; under wing-coverts pale yellow; quills below dusky, yellow along the inner edge: "iris brown; legs dull green; bare skin round eye green" (*L. Wray*). Total length 11·3 inches, culmen 1·2, wing 4·6, tail 3·2, tarsus 1·2.

*Adult female.* Similar to the male in colour. Total length 10·5 inches, culmen 1·2, wing 4·7, tail 4·2, tarsus 1·2.

Young birds are much duller in plumage than the adults, the head is browner, and the hoary grey band across the crown is less distinct; the yellow and black bars on the throat are much smaller.

*Hab.* Mountains of Perak in the Malayan Peninsula and mountains of Sumatra.

| | | |
|---|---|---|
| *a,b.* ♂ ♀ ad. sk. | Mountains of Perak. | L. Wray, Esq. [P.]. |
| *c.* Ad. sk. | Sumatra. | Gould Coll. |
| *d.* Juv. sk. | Sumatra. | Purchased. |
| *e–g.* ♂ ad.; *h–k.* ♀ ad. et juv. sk. | Mount Sago, Sumatra, Aug., Sept. (*Carl Bock*). | Tweeddale Coll. |
| *l–n.* Ad.; *o.* Juv. sk. | Lolo, Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *p.* ♀ juv. sk. | Siedjoundjong, Sumatra, Sept. (*Carl Bock*). | Tweeddale Coll. |

## 17. TRACHYPHONUS.

| | Type. |
|---|---|
| Trachyphonus, *Ranzani, Elem. di Zoologie*, iii. p. 159 (1821) | T. cafer. |
| Tamatia, *Hempr. & Ehr. Symb. Phys.* pl. vii. (1828) | T. margaritatus. |
| Cucupicus, *Less. Man.* ii. p. 116 (1828) | T. cafer. |
| Micropogon, *Temm. Pl. Col.* livr. 83 (1830) | T. margaritatus. |
| Polysticte, *Smith, Rep. Exped. S. Afr.* p. 40 (1836). | T. cafer. |

*Range.* Confined to Africa.

*Key to the Species.*

*a*. Tail and wings spotted or barred with white.
  *a'*. Nape and hind neck uniform black; crown crested, black; forehead and eyebrow varied with yellow and scarlet.
    *a''*. Back black, generally varied with white transverse edges to the feathers. All the feathers of the black præpectoral band not tipped with white..... *cafer*, p. 100.



L. of C.

*b''*. Back generally uniform black, without white edges to the feathers. All the feathers of the præpectoral band tipped with white ..... *suahelicus*, p. 102.

*b'*. Nape and hind neck yellow spotted with black; forehead and crown black.

*c''*. Under tail-coverts yellow without any red shade ..... *versicolor*, p. 102.

*d''*. Under tail-coverts red.

*a'''*. Eyebrow washed with crimson; ear-coverts crimson.

*a*¹. Larger; pale spots on upper plumage more rounded and white ..... *erythrocephalus*, p. 102.

*b*¹. Smaller; pale spots on upper plumage subtriangular, and tinted with rosy ..... *shelleyi*, p. 103.

*b'''*. Eyebrow and sides of face pale yellow ..... *margaritatus*, p. 103.

*c'*. Nape and hind neck brown, with pale yellow spots and bars.

*e''*. Crown uniform black ..... *boehmi*, p. 104.

*f''*. Crown scaly, the feathers reddish or yellow, with black bases and edges .. *arnaudi*, p. 105.

*b*. Tail and wings black, without any white spots or bars.

*d'*. Sides of breast black, boldly mottled with yellow; bare skin round eye yellow ..... *purpuratus*, p. 106.

*e'*. Sides of breast uniform yellow like the middle; bare skin round eye dark .... *goffini*, p. 106.

## 1. Trachyphonus cafer.

Le Promepic, *Levaill. Promerops*, p. 77, pl. 32 (1806).
Picus cafer, *Vieill. N. Dict. d'Hist. Nat.* xxiv. p. 102 (1818).
Trachyphonus vaillantii, *Ranzani, Elem. di Zool., Ucc.* tom. iii. pt. 2, p. 159 (1821).
Cucupicus cafer, *Less. Man. d'Orn.* ii. p. 116 (1828).
Micropogon sulphuratus, *Lafr. Mag. de Zool.* pl. 60 (1836).
Polysticte quopopa, *Smith, Report S. Afr. Exp.*, App. p. 40 (1836).
Trachyphonus cafer, *Gray, List Gen. B.* p. 69 (1841); *Bp. Consp. Av.* i. p. 142 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854); *Verr. P. Z. S.* 1859, p. 399; *Newton, Ibis*, 1868, p. 268; *Gray, List Capit. Brit. Mus.* p. 17 (1868); *id. Hand-l. B.* ii. p. 177, no. 8481 (1870); *Ayres, Ibis*, 1870, p. 260; *Marshall, Monogr. Capit.* p. 139, pl. 56 (1870); *Sharpe, Cat. Afr. B.* p. 16 (1871); *Buckley, Ibis*, 1874, p. 368; *Barratt, Ibis*, 1876, p. 200; *Ayres, Ibis*, 1879, p. 295; *Bocage, Orn. Angola*, p. 109 (1881); *Sharpe in Oates' Matabele-Land*, App. B, p. 306 (1881); *Holub & Von Pelz. Beitr. Orn. Südafr.* p. 162 (1882); *Shelley, Ibis*, 1882, p. 249; *Sharpe, ed. Layard's B. S. Afr.* pp. 178, 811 (1884); *Hartl. Ibis*, 1886, p. 107; *Souza, Jorn. Lisb.* 1887, p. 91; *Büttik. Notes Leyden Mus.* x. p. 224 (1887).

Capito vaillantii, *Gray, Gen. B.* ii. p. 430 (1846); *Layard, B. S. Afr.* p. 235 (1867).
Capito cafer, *Goffin, Mus. Pays-Bas*, Buccones, p. 65 (1863).

*Adult male.* General colour above glossy blue-black, the feathers of the back and scapulars rather broadly edged with white; lower back and rump sulphur-yellow; upper tail-coverts scarlet; wing-coverts glossy black, the inner ones of all three series white, forming a large patch; the median and greater coverts broadly tipped with white like the back, as also the inner secondaries; primary-coverts and quills black, checkered with spots of white on the outer web; tail-feathers black, broadly tipped with white, and spotted with white on the edges of both inner and outer webs, these spots being four in number; head strongly crested, uniform glossy black; forehead, eyebrow, sides of face, and ear-coverts bright yellow, varied with scarlet margins to the feathers, this yellow colour extending backwards along the sides of the neck, but in this place not fringed with scarlet; throat sulphur-yellow, followed by a broad, black collar on the fore neck, the feathers of the upper part of this black collar tipped with large spots of rosy white; on each side of the collar a large spot of creamy white extending across the chest, but not very distinct in the middle; remainder of the under surface of body bright sulphur-yellow, the breast streaked with scarlet edges to the feathers, the under tail-coverts also with scarlet margins; the sides of the body and thighs slightly mottled with black bases to the feathers; under wing-coverts and quill-lining ashy white: "bill pale green, with a dusky tip; tarsi and feet dusky ash; iris dark lake" (*J. S. Jameson*). Total length 8·5 inches, culmen 1, wing 3·9, tail 3·3, tarsus 1·05.

*Adult female.* Similar to the male, only differing in having the colours a little paler, and in having a slight tinge of scarlet on the spots of the upper part of the præpectoral collar. Total length 8 inches, culmen 0·95, wing 3·9, tail 3·1, tarsus 1·05.

*Young.* Browner than the adults and having very little of the blue-black gloss. The colours nowhere quite so vivid as in the adults, and with less scarlet on the face and throat.

*Hab.* Eastern portion of South Africa.

| | | |
|---|---|---|
| *a.* ♀ juv. sk. | Weenen, Natal, March 1 (*W. Arnold*). | Shelley Coll. |
| *b.* Ad. sk. | Transvaal (*T. Ayres*). | Sharpe Coll. |
| *c, d.* ♀ ad. sk. | Crocodile River, July, Nov. (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *e.* ♂ ad.; *f.* ♀ ad. sk. | Limpopo River, July, Nov. (*T. E. Buckley*). | Shelley Coll. |
| *g.* ♂ ad. sk. | Rustenberg. | F. A. Barratt, Esq. [P.]. |
| *h.* Ad. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *i, k.* Ad. sk. | Tete, Zambesi (*Sir J. Kirk*). | Livingstone Exped. |

### 2. Trachyphonus suahelicus.

Trachyphonus cafer (*nec Vieill.*), *Shelley, P. Z. S.* 1881, p. 592; *Fischer, Zeitschr. ges. Orn.* i. p. 372 (1884); *id. J. f. O.* 1885, p. 125.
Trachyphonus sp., *Böhm, J. f. O.* 1883, p. 166.
Trachyphonus suahelicus, *Reichen. J. f. O.* 1887, p. 60.

*Adult.* Very similar to *T. cafer*, but may be distinguished by the greater number of white spots on the black præpectoral band, every feather of which without exception has a rosy-white terminal spot, which is not the case in *T. cafer*: "bill greyish yellow, with the tip blacker; feet brownish grey; iris carmine-red" (*G. A. Fischer*). Total length 7·6 inches, culmen 0·9, wing 3·7, tail 3·3, tarsus 1.

*Young.* Differs only from the adult in being duller and in having the colours paler, the feathers of the back edged with pale yellow, not white as in *T. cafer*. The præpectoral collar is almost entirely absent, and is only represented by a few feathers tipped with rosy white.

*Hab.* Replaces *T. cafer* in Eastern Africa.

| | | |
|---|---|---|
| *a*, *b*. Ad. et juv. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. |
| *c*, *d*. Ad. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *e*. Ad. sk. | Dar-es-Salaam (*Sir J. Kirk*). | Shelley Coll. |

### 3. Trachyphonus versicolor.

Trachyphonus versicolor, *Hartl. Abhandl. nat. Verein. Bremen*, Bd. viii. p. 208 (1882); *id. Orn. Centralbl.* 1882, p. 91; *id. J. f. O.* 1882, p. 326; *id. Ibis*, 1886, p. 111.

*Adult.* Similar to *T. erythrocephalus*, but with less red on the head, and distinguished by the under tail-coverts being entirely yellow. (*Hartlaub.*)

*Hab.* Equatorial Africa.

### 4. Trachyphonus erythrocephalus.

Trachyphonus erythrocephalus, *Cab. J. f. O.* 1878, pp. 206, 240, pl. ii. figs. 1 & 2; *Hartl. Ibis*, 1886, p. 111; *Shelley, Ibis*, 1888, p. 291; *id. P. Z. S.* 1889, p. 357.

*Adult.* Similar to *T. cafer*, but distinguished by the white-spotted back and the uniform sides of the face, the whole of the sides of the hinder crown, the ear-coverts, and cheeks being crimson, with a little yellow on the fore part of the eyebrow, below the eye, and the fore part of the cheeks; the under surface of the body yellow, with a reddish tinge on the fore neck; down the centre of the throat a broad black band; the black collar on the chest not

very distinct, but largely spotted with ovate white markings on the sides of the chest. Total length 8·5 inches, culmen 1·15, wing 3·8, tail 3·3, tarsus 1·15.

*Hab.* Eastern Africa.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Taveta. | F. J. Jackson, Esq. [P.]. |
| *b*. ♀ ad. sk. | East side of Kilimanjaro, July 3. | H. C. V. Hunter, Esq. [P.]. |

### 5. Trachyphonus shelleyi.

Trachyphonus erythrocephalus (*nec Cab.*), *Shelley, Ibis*, 1885, p. 394.
Trachyphonus shelleyi, *Hartl. Ibis*, 1886, pp. 105, 111, pl. v.

*Adult* (type of species). Similar to *T. erythrocephalus*, but very much smaller, the head black; eyebrow and sides of face yellow washed with crimson, the ear-coverts almost entirely crimson, with a posterior patch of white behind the latter; throat yellow, with a broad median line of black. Total length 7 inches, culmen 0·9, wing 3·1, tail 2·85, tarsus 0·95. (*Coll. E. Lort Phillips.*)

*Hab.* Somali-Land in Eastern Africa.

### 6. Trachyphonus margaritatus.

Bucco margaritatus, *Rüpp. in Cretzschm. Atlas, Vögel*, p. 30, pl. 20 (1826).
Tamatia erythropygos, *Hempr. & Ehr. Symb. Phys.* t. 7 (1828).
Lypornix erythropygos, *Wagl. Isis*, 1829, p. 658.
Micropogon erythropygos, *Temm. Pl. Col.* iii. pl. 490 (1830).
Micropogon margaritaceus, *Temm. Tabl. Méth. Pl. Col.* p. 55 (1839).
Trachyphonus margaritatus, *Rüpp. Syst. Uebers.* p. 95 (1845); *Bp. Consp. Av.* i. p. 142 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854); *Heugl. Ibis*, 1859, p. 343; *Verr. P. Z. S.* 1859, p. 399; *Heugl. Ibis*, 1861, p. 124; *Antin. Cat. descr. Ucc.* p. 62 (1864); *Gray, List Capit. Brit. Mus.* p. 17 (1868); *id. Hand-l. B.* ii. p. 177, no. 8482 (1870); *Blanf. Geol. & Zool. Abyss.* p. 311 (1870); *Finsch, Tr. Z. S.* vii. p. 281 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 506 (1870); *Marshall, Monogr. Capit.* p. 143, pl. 27 (1870); *Heugl. Orn. N.O.-Afr.* p. 764, App. p. clx (1871); *Antin. & Salvad. Viagg. Bogos*, p. 45 (1873); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 86 (1884), vi. p. 210 (1888); *Hartl. Ibis*, 1886, p. 106.
Capito margariticus, *Gray, Gen. B.* ii. p. 430 (1846).
Capito margaritatus, *Goffin, Mus. Pays-Bas*, Buccones, p. 67 (1863).

*Adult male.* General colour above brown, varied with rounded subterminal white spots; lower back and rump sulphur-yellow; upper tail-coverts crimson; wing-coverts, like the back and similarly spotted; quills and tail-feathers brown, externally checkered with white spots, those on the tail-feathers tinged with yellow, the outer tail-feathers regularly barred with brown and yellowish white;

crown of head glossy black, the feathers somewhat scale-like in texture; sides of the crown, sides of face, ear-coverts, cheeks, sides of neck, and hind neck bright sulphur-yellow, the latter spotted with black, the sides of the face uniform; throat and chest also bright yellow; remainder of under surface of body pale yellow, becoming whiter towards the under tail-coverts, which are crimson; on the lower throat a triangular black spot; across the chest a band of dark brown or blackish, the feathers being brown with subterminal white spots or bars; below this band a second imperfect one of scarlet intermixed with a few black spots; under wing-coverts and axillaries white; quills dusky brown below, with white bars on the inner web: "bill yellowish red, dusky brown at the end; feet pale bluish dusky; iris reddish umber" (*Heuglin*). Total length 8 inches, culmen 0·95, wing 3·8, tail 3·4, tarsus 1·05.

*Adult female.* Similar to the male, but wanting the black spot on the throat. Total length 8 inches, culmen 0·95, wing 3·6, tail 3, tarsus 1.

*Young.* Duller in colour than the adults and with less gloss on the black crown; the back with scarcely any white spots; the pectoral collar only faintly indicated.

*Hab.* North-eastern Africa.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Abyssinia (*Col. Sturt*). | Hume Coll. |
| *b.* ♂ ad. sk. | Abyssinia. | Shelley Coll. |
| *c.* ♀ ad. sk. | Zoulla, Abyssinia, Feb. 4. | W. T. Blanford, Esq. [P.]. |
| *d.* ♂ ad. sk. | Koomayli, Abyssinia, March 19 (*W. Jesse*). | Salvin-Godman Coll. |
| *e, f.* ♂ ♀ ad. sk. | Gabsa, Bogos-Land (*Esler*). | Sharpe Coll. |
| *g, h.* ♀ ad. sk. | Gabsa (*Esler*). | Shelley Coll. |
| *i.* ♀ ad. sk. | Rairo, Aug. 10 (*W. Jesse*). | Tweeddale Coll. |
| *k.* ♂ ad. sk. | Bejook, July 18 (*W. Jesse*). | Tweeddale Coll. |
| *l.* ♂ ad. sk. | Bejook, July 15. | W. T. Blanford, Esq. [P.]. |
| *m.* ♀ imm. sk. | Efat, Shoa (*Sir W. C. Harris*). | India Museum. |

### 7. Trachyphonus boehmi.

Trachyphonus arnaudi (*nec Des Murs*), *Cab. J. f. O.* 1878, p. 240.
Trachyphonus squamiceps (*nec Heugl.*), *Fischer & Reichen. J. f. O.* 1879, p. 342.
Trachyphonus margaritatus (*nec Rüpp.*), *Böhm. J. f. O.* 1883, p. 161.
Trachyphonus boehmi, *Fischer & Reichen. J. f. O.* 1884, pp. 179, 180; *Fischer, Zeitschr. ges. Orn.* i. p. 371 (1884); *id. J. f. O.* 1885, p. 125; *Hartl. Ibis*, 1886, p. 109; *Shelley, P. Z. S.* 1889, p. 357.

*Adult male.* General colour above dark brown, with rounded spots of yellowish white; scapulars less distinctly spotted; lower back uniform brown; rump dull olive-yellow, with mesial streaks of bright sulphur-yellow; upper tail-coverts crimson; wing-coverts like the back and similarly spotted; quills brown, externally notched

with yellowish white, producing a checkered appearance; tail-feathers blackish, with yellowish spots and notches on the outer webs, the outer feathers banded with pale yellowish and dark brown bars; crown of head glossy black; hinder neck blackish brown, the feathers subterminally spotted with sulphur-yellow; eyebrow, sides of face, ear-coverts, cheeks, throat, and fore neck yellow slightly washed with scarlet, the feathers all minutely tipped with black, producing a spotted appearance, the spots much smaller on the fore neck; on the lower throat a large triangular spot of black; on each side of the breast a black half-collar with large ovate spots of white; remainder of under surface of body pale yellow, minutely spotted with triangular dots of smoky black; flanks brownish; under tail-coverts crimson; under wing-coverts ashy white, the edge of the wing washed with yellow; quills dusky brown below, ashy white along the inner web: "bill buffy green; feet lead-colour; iris brown" (*G. A. Fischer*). Total length 7·2 inches, culmen 0·8, wing 3·1, tail 3·15, tarsus 0·95.

*Adult female.* Similar to the male. Total length 6·8 inches, culmen 0·7, wing 3·05, tail 3·1, tarsus 0·85.

*Hab.* East Africa.

| | | |
|---|---|---|
| *a, b* ♂ ♀ ad. sk. | Kilimanjaro, July 3. | H. C. V. Hunter, Esq. [P.]. |
| *c* ♀ ad. sk. | Ndara, Teita, Aug. 25. | H. C. V. Hunter, Esq. [P.]. |
| *d* ♂ ad. sk. | Voi River, Teita, July (*Dr. J. M. Hildebrandt*). | Shelley Coll. |
| *e* ♂ ad. sk. | Parè, March 3 (*Dr. Fischer*). | Shelley Coll. |
| *f* Ad. sk. | Barava, Oct. (*Dr. Fischer*). | Shelley Coll. |

## 8. **Trachyphonus arnaudi.**

Micropogon darnaudii, *Des Murs in Lefebvre's Voy. Abyss.* p. 133 (1845).

Trachyphonus squamiceps, *Heugl. Syst. Uebers.* p. 47 (1856); *Hartl. Orn. W.-Afr.* p. 176, note (1857); *Heugl. Ibis*, 1861, pp. 125, 127, pl. v. fig. 4; *Gray, List Capit. Brit. Mus.* p. 18 (1868); *id. Hand-l. B.* ii. p. 177, no. 8483 (1870); *Marshall, Monogr. Capit.* p. 147, pl. 58 (1871).

Capito squamiceps, *Goffin, Mus. Pays-Bas*, Buccones, p. 70, note (1863).

Trachyphonus darnaudi, *Gray, Hand-l. B.* ii. p. 177, no. 8486 (1870).

Trachyphonus arnaudi, *Heugl. Orn. N.O.-Afr.* p. 765, App. p. clx (1871); *Hartl. Abhandl. nat. Verein. Bremen*, Bd. vii. p. 113 (1881); *id. Ibis*, 1886, p. 108.

*Adult male.* Similar to *T. boehmi*, but having a spotted crown, the latter being dull red with yellow shaft-streaks and black bases to the feathers, which are also minutely tipped with black: "bill pale fleshy horn-colour, more yellow towards the base; feet pale

bluish dusky; iris umber" (*Heuglin*). Total length 6·6 inches, culmen 0·75, wing 2·95, tail 2·8, tarsus 0·9.

*Hab.* Equatorial Africa and Upper White Nile.

*a, b, c.* ♀ ad. sk. Lado, March 20 (*Emin Pasha*). Shelley Coll.

### 9. Trachyphonus purpuratus.

Trachyphonus purpuratus, *J. & E. Verreaux, Rev. et Mag. de Zool.* 1851, p. 260; *Strickl. Contr. Orn.* 1851, p. 135; *Hartl. J. f. O.* 1854, p. 195; *Bp. Consp. Vol. Zyg.* p. 12 (1854); *Hartl. Orn. W.-Afr.* p. 175 (1857); *Verr. P. Z. S.* 1859, p. 399; *Cass. Pr. Philad. Acad.* 1859, p. 141; *Hartl. J. f. O.* 1861, p. 263; *Gray, List Capit. Brit. Mus.* p. 18, pt. (1868); *id. Hand-l. B.* ii. p. 177, no. 8484 (1870); *Marshall, Monogr. Capit.* p. 151, pl. 60 (1871); *Reichen. J. f. O.* 1875, p. 9; *Oustalet, Nouv. Arch. Mus.* (2) ii. *Bull.* p. 68 (1879); *Scl. P. Z. S.* 1884, p. 476; *Hartl. Ibis*, 1886, p. 111.

Capito purpuratus, *Goffin, Mus. Pays-Bas*, Buccones, p. 71 (1863).

*Adult male.* Glossy blue-black, the feathers being black with broad blue-black edges: upper tail-coverts black, with narrow margins of sulphur-yellow; lesser wing-coverts white, or white with broad black tips; remainder of wing-coverts and quills black; tail black, with a small white spot at the end of the outer feathers; head like the back, the forehead and eyebrow deep claret-colour, extending to the sides of the neck; region of the eye bare, of a bright yellow colour in life; nasal bristles, cheeks, and ear-coverts black; throat and fore neck black, varied with mesial lanceolate streaks of hoary grey with a pinkish tinge; across the chest a band of crimson, separating the fore neck from the rest of the under surface, which is pale but bright yellow, more or less mottled with black on the sides of the body, the feathers of these parts and the thighs and under tail-coverts being black with large ovate spots of yellow at the ends; under wing-coverts white, with dusky bases; quills blackish below, ashy brown along the inner webs: "bill yellow; naked space round the eye yellow; feet blackish green; iris reddish brown" (*A. Reichenow*). Total length 9·5 inches, culmen 1, wing 4·45, tail 3·9, tarsus 1·15.

*Hab.* West Africa from the Camaroons to Gaboon.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Gaboon (*Walker and DuChaillu*). | Sharpe Coll. |
| *c.* ♂ ad. sk. | Gaboon. | Shelley Coll. |
| *d.* Ad. sk. | Ogowé River, Gaboon (*H. T. Ansell*). | Shelley Coll. |
| *e.* Ad. sk. | Camaroons Mountains, Feb. (*A. Crossley*). | Sharpe Coll. |

### 10. Trachyphonus goffini.

Capito goffini, *Schleg. Mus. Pays-Bas*, Buccones, p. 72 (1863).

Trachyphonus goffini, *Gray, List Capit. Brit. Mus.* p. 18 (1868); *id. Hand-l. B.* ii. p. 177, no. 8485 (1870); *Sharpe, Ibis*, 1870, p. 473; *id. Cat. Afr. B.* p. 16 (1871); *Marshall, Monogr. Capit.* p. 149,

pl. 59 (1871); *Ussher, Ibis*, 1874, p. 55; *Büttik. Notes Leyden Mus.* vii. p. 218 (1885); *Hartl. Ibis*, 1886, p. 112; *Büttik. Notes Leyden Mus.* x. p. 95 (1888).

Trachyphonus purpuratus (*nec Verr.*), *Sharpe, Ibis*, 1869, p. 386.

*Adult.* Similar to *T. purpuratus*, but easily distinguished by the dark colour of the bare skin round the eye, the absence of the black mottling on the sides of the body, and the small size of the hoary-grey spots on the throat. Total length 10 inches, culmen 0·95, wing 4·3, tail 3·8, tarsus 1·1.

*Young.* Only differs from the adult in having less gloss on the upper surface, the feathers being more narrowly edged; the throat is rather brighter and more uniform crimson, with scarcely any of the hoary-grey spotting.

*Hab.* West Africa from Liberia to the Gold Coast.

| | | |
|---|---|---|
| *a*. Ad. sk. | [Sierra Leone.] | Tweeddale Coll. |
| *b*. Ad.; *c*. Juv. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *d*. Ad.; *e*, *f*. Juv. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *g*, *h*. Ad. sk. | Fantee (*H. T. Ussher*). | Shelley Coll. |
| *i*. Ad.; *k*. Juv. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |

## 18. CAPITO.

| | Type. |
|---|---|
| Capito, *Vieill. Analyse*, p. 27 (1816) | C. niger. |
| Nystastes, *Gloger, in Froriep's Notizen*, xvi. p. 277 (1827) | C. niger. |
| Eubucco, *Bp. Consp.* i. p. 142 (1850) | C. richardsoni. |
| Micropogon, *Temm. Pl. Col.* texte (1830) | C. niger. |

*Range.* Confined to Central and Southern America.

*Key to the Species.*

*a*. No spots or streaks on the sides of the body; throat uniform orange-yellow like breast; head crimson in males, hoary grey in females ..... *aurovirens*, p. 108.

*b*. Sides of body spotted with black.

*a'*. Throat black.

*a''*. Upper surface black, uniform; no scarlet on the forehead; orange on flanks ..... *maculicoronatus* ♀, p. 109.

*b''*. Upper surface black, the feathers fringed with white; forehead scarlet; no orange on the flanks ..... *squamatus*, p. 110.

*b'*. Throat white, followed by a yellow band ..... *maculicoronatus* ♂, p. 109.

*c'*. Throat white; breast yellow; forehead black; feathers of crown, occiput, and neck tipped with blood-red ..... *quinticolor*, p. 111.

*d'*. Throat red or yellow.
*c''*. Forehead scarlet; vertex straw-yellow; hinder crown black or blackish brown; ear-coverts black; throat deep crimson; breast uniform (♂) or spotted with black (♀). *niger*, p. 111.
*d''*. Entire crown straw-yellow, with a faint tinge of scarlet; hinder crown streaked with dusky black; ear-coverts black.
*a'''*. Throat bright orange ..... *punctatus*, p. 112.
*b'''*. Throat scarlet vermilion..... *auratus*, p. 113.
*c*. Sides of the body streaked with green; no black spots.
*e'*. Ear-coverts scarlet or crimson.
*e''*. Cheeks yellow or orange.
*c'''*. A blue or grey collar round the hind neck.
*a*⁴. Upper throat crimson or scarlet, followed by sulphur-yellow.
*a*⁵. Crown crimson, followed by a blue-grey collar; throat-spot very small.
*a*⁶. Spot on chin deep crimson . *richardsoni* ♂, p. 114.
*b*⁶. Spot on chin black ..... *granadensis* ♂, p. 115.
*b*⁵. Crown and upper throat scarlet; collar round hind neck bright blue ..... *steerii* ♂, p. 116.
*b*⁴. Upper throat crimson, followed by verditer-blue, which is succeeded by orange..... *glaucogularis* ♂, p. 117.
*d'''*. A yellow collar round the hind neck ..... *aurantiicollis* ♂, p. 115.
*f''*. Cheeks scarlet like the head and throat ..... *bourcieri* ♂, p. 118.
*g''*. Cheeks blue; head and throat scarlet ..... ..... *salvini* ♂, p. 119.
*versicolor* ♂, p. 116.
*f'*. Ear-coverts blue.
*h''*. Throat apple-green, followed by an orange collar.
*e'''*. A line of blue skirting the black forehead ..... *bourcieri* ♀, p. 118.
*f'''*. No blue on crown, which is entirely golden olive ..... *salvini* ♀, p. 119.
*i''*. Throat blue, followed by a scarlet collar..... *versicolor* ♀, p. 116.
*g'*. Ear-coverts black.
*k''*. A narrow yellow collar across the lower throat..... *richardsoni* ♀, p. 114.
*l''*. A broad orange collar across the lower throat..... *aurantiicollis* ♀, p. 115.

## 1. Capito aurovirens.

Le Barbu oranvert, *Levaill. Hist. Nat. Barbus*, iii. Suppl. p. 44. fig. E (1807).

Bucco aurovirens, *Cuv. Règne An.* i. p. 458 (1829).
Micropogon aurovirens, *Bp. P. Z. S.* 1837, p. 120.
Capito aurovirens, *Gray, Gen. B.* ii. p. 430 (1846); *Scl. Ibis*, 1861, p. 187; *Goffin, Mus. Pays-Bas*, Buccones, p. 58 (1863); *Scl. & Salv. P. Z. S.* 1866, p. 196, 1867, p. 753; *Gray, List Capit. Brit. Mus.* p. 21 (1868); *id. Hand-l. B.* ii. p. 178, no. 8493 (1870); *Marsh. Monogr. Capit.* p. 155, pl. 62 (1871); *Scl. & Salv. P. Z. S.* 1873, p. 278; *iid. Nomencl. Av. Neotr.* p. 110 (1873); *Tacz. Orn. Pérou*, iii. p. 140 (1886).
Eubucco aurovirens, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zyg.* p. 12 (1854).

*Adult male.* General colour above olive-brown, somewhat washed with green; lower back, rump, and upper tail-coverts dull olive-green; wing-coverts rather browner than the back; quills dusky brown, externally olive-yellow; tail-feathers dull olive-green, the outer ones browner on the inner web; crown of head and nape scarlet; a narrow superciliary streak of olive-grey; sides of hinder crown olive-brown like the sides of the neck; lores, feathers below the eye, and ear-coverts dark brown; cheeks, throat, and chest rich orange-yellow; fore part of cheeks and chin whitish; breast ashy olive washed with orange, the abdomen inclining to yellowish white; sides of body and flanks olive-brown, washed with green; under tail-coverts like the abdomen; under wing-coverts yellowish white, washed with orange; quills dusky below, yellowish along the inner web: "bill blackish horny, the lower mandible bluish white; feet olive; iris red" (*J. Stolzmann*). Total length 7·1 inches, culmen 0·9, wing 3·4, tail 2·45, tarsus 0·85.

*Adult female.* Similar to the male, but wanting the scarlet crown, this being hoary grey, inclining to whitish on the forehead. Total length 7·3 inches, culmen 0·85, wing 3·35, tail 2·5, tarsus 0·9.

*Hab.* Upper Amazonia, Ecuador, and Peru.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Andoas, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *b.* ♂ ad. sk. | Ucayali River. | Gould Coll. |
| *c.* Ad. st. | Ucayali River. | J. Hauxwell, Esq. [C.]. |
| *d, e.* ♂ ♀ ad. sk. | Upper Ucayali (*E. Bartlett*). | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Upper Ucayali (*E. Bartlett*). | Sclater Coll. |
| *g.* ♂ ad. sk. | Upper Amazons (*Mus. Brem.*). | Sclater Coll. |
| *h.* ♀ ad. sk. | Yquitos, E. Peru (*H. Whitely*). | Salvin-Godman Coll. |
| *i.* ♂ ad. sk. | Nauta, Peru (*J. Hauxwell*). | Salvin-Godman Coll. |
| *k.* ♀ ad. sk. | Nauta, Peru. | E. Bartlett [C.]. |

### 2. Capito maculicoronatus.

Capito maculicoronatus, *Lawr. Ann. Lyc. N. Y.* iii. p. 300 (1861); *Scl. Ibis*, 1862, p. 1, pl. i.; *Scl. & Salv. P. Z. S.* 1864, p. 366; *Salv. P. Z. S.* 1867, p. 157; *Gray, Hand-l. B.* ii. p. 178, no. 8494 (1870); *Marsh. Monogr. Capit.* p. 153, pl. 61 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873); *iid. P. Z. S.* 1879, p. 537.

*Adult male.* General colour above glossy black; wing-coverts and

secondaries like the back; the primaries brownish black; tail-feathers black: crown of head mottled with white-tipped feathers, slightly washed with brown towards the nape; sides of crown, eyebrow, and base of forehead glossy black like the lores; sides of the face and ear-coverts, cheeks, throat, and under surface of body white, with a broad crescent of golden yellow across the fore neck; sides of body largely spotted with ovate spots of black, and having a patch of fiery-red or orange feathers; lower flanks entirely black; thighs white, black externally; under tail-coverts white, with a pale sulphur tinge on the vent; under wing-coverts and axillaries white with a faint tinge of yellow, the edges of the wing black; quills below dusky black, yellow along the inner edge: "bill dark horn-colour, the culmen marked just forward of the nostrils with a spot of dull orange, under part of the lower mandible dull white; legs and feet black" (*G. N. Lawrence*): "iris dark" (*T. K. Salmon*). Total length 6·4 inches, culmen 0·85, wing 3·2, tail 1·9, tarsus 0·95.

*Adult female.* Differs from the male in having the entire throat and chest black. Total length 6·2 inches, culmen 1·9, wing 3, tail 2, tarsus 0·85.

*Hab.* Panama and Colombia.

| | | |
|---|---|---|
| *a, b.* ♂ ad.; *c.* ♀ ad. sk. | Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *d.* ♀ ad. sk. | Panama (*J. McLeannan*). | Salvin-Godman Coll. |
| *e, f.* ♂ ♀ ad. sk. | Panama (*J. McLeannan*). | Sclater Coll. |
| *g, h.* ♂ ♀ ad. sk. | Lion Hill Station, Panama (*J. McLeannan*). | Salvin-Godman Coll. |
| *i, k.* ♂ ♀ ad. sk. | Remedios, Antioquia (*T. K. Salmon*). | Sclater and Salvin-Godman Colls. |
| *l.* ♂ ad. sk. | Nichi, U.S. Colombia (*T. K. Salmon*). | Salvin-Godman Coll. |

### 3. Capito squamatus.

Capito squamatus, *Salvin, Ibis*, 1876, p. 494, pl. xiv.; *Tacz. & Berl. P. Z. S.* 1885, p. 118.

*Adult* (type of species). General colour above black, the feathers of the upper parts margined with hoary white, yellowish on the lower back, rump and upper tail-coverts with yellowish fringes; wing-coverts like the back and similarly fringed; bastard-wing, primary-coverts, quills, and tail-feathers black, the inner secondaries with a large yellowish-white mark near the end of the inner web, which is mottled with black towards the tip; forehead rich orange, inclining to yellow on the vertex; hinder crown and nape white with a faint yellowish tinge, the hinder nape with a brown streak on each side; lores, eyebrow, sides of crown, sides of neck, hinder neck, throat, and breast black; remainder of under surface of body pale sulphur-yellow, the sides of the body and flanks streaked with black; under wing-coverts white with a yellowish tinge; quills

black, yellowish white along the inner web. Total length 7 inches, culmen 0·8, wing 3·4, tail 2·1, tarsus 0·8.

*Hab.* Ecuador.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Santa Rita, Ecuador (*Villagomez*). | Salvin-Godman Coll. (Type of species.) |

### 4. Capito quinticolor.

Capito quinticolor, *Elliot, Nouv. Arch. du Muséum*, i. *Bull.* p. 76, pl. iv. fig. 1 (1865); *Gray, Hand-l. B.* ii. p. 178, no. 8495 (1870); *Marsh. Monogr. Capit.* p. 163, pl. 65 (1871).

Above black; all the feathers of the vertex, occiput, and neck tipped with blood-red, those of the back, rump, and upper tail-coverts, secondaries, as well as a band crossing the wing-coverts, yellow slightly tinted with green; chin, cheeks, sides and front of the throat white washed with pale yellow; breast and middle of abdomen orange-yellow; flanks and under tail-coverts olive with black patches, quills and tail-feathers tinted with olive-brown; bill black, whitish at the base; tarsus lead-colour. Total length 0·146 m., wing 0·09 m., tail 0·05 m., bill from front 0·02 m., tarsus 0·02 m. (*Elliot.*)

*Hab.* New Granada.

### 5. Capito niger.

The Yellow Woodpecker with black spots, *Edwards, Gleanings*, iii. p. 259, pl. 333 (1764).

Le Barbu tacheté de Cayenne, *Briss. Orn.* iv. p. 97, pl. vii. fig. 4 (1760).

Le Barbu de Guyane, *Daubent. Pl. Enl.* vii. p. 206, fig. 1; *Levaill. Hist. Nat. Barbus*, pls. 23, 24, 25 (1806).

? Barbu de St. Domingue, *Daubent. Pl. Enl.* vii. pl. 206. fig. 2.

Bucco niger, *P. L. S. Müll. S. N. Suppl.* p. 89 (1776); *Cass. Proc. Acad. Philad.* 1864, p. 242.

? Bucco maculatus, *P. L. S. Müll. S. N. Suppl.* p. 89; *Cass. Proc. Acad. Philad.* 1864, p. 242.

Le Tamatia à tête et gorge rouges, *Buff. Hist. Nat. Ois.* vii. p. 96 (1780).

Cayenne Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 495 (1782).

Bucco erythronotus, *Bodd. Tabl. Pl. Enl.* p. 12 (1783).

Bucco cayannensis, *Gm. Syst. Nat.* i. p. 405 (1788).

Capito cayannensis, *Vieill. N. Dict. Hist. Nat.* iv. p. 500 (1816); *Goffin, Mus. Pays-Bas*, Buccones, p. 53 (1863).

Capito rubricollis, *Vieill. Enc. Méth.* iii. p. 1426 (1823).

Micropogon cayannensis, *Temm. Pl. Col.*, texte Intr. p. 55 (1839).

Capito erythrocephalus, *Gray, Gen. B.* ii. p. 430 (1846); *Scl. Ibis*, 1861, p. 185; *id. Cat. Amer. B.* p. 329 (1862); *Gray, List Capit. Brit. Mus.* p. 20 (1868); *id. Hand-l. B.* ii. p. 177, no. 8490 (1870).

Capito nævius, *Gray, Gen. B.* ii. p. 430 (1846).

Eubucco erythrocephalus, *Scl. P. Z. S.* 1857, p. 268.

Capito niger, *Marshall, Monogr. Capit.* p. 157, pl. 63 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873); *Salv. Ibis*, 1886, p. 66.

*Adult male.* General colour above black, with a streak down each side of the mantle, formed by yellowish-white edges to the feathers; lower back and rump black, all the feathers edged with olive-yellow; wing-coverts black, with a band of ochreous white across the greater series; bastard-wing, primary-coverts, and quills black, edged with olive-brown, the inner secondaries with a mark of ochreous white towards the end of the outer web; upper tail-coverts and tail-feathers olive-brown, with blackish centres or shafts; forehead scarlet, followed by a band of straw-yellow, the hinder crown and nape black mottled with brown, with an eyebrow of pale yellow flanking the hind crown; lores, feathers round eye, ear-coverts, sides of face, and sides of neck black; cheeks and throat rich scarlet, the chin yellowish; fore neck and under surface of body pale sulphur-yellow, the sides of the breast with ovate spots of black; sides of body and flanks browner, with less distinct black centres to the feathers; thighs whitish in front, brown behind; under tail-coverts yellowish, crossed with dusky bands; under wing-coverts white washed with ochreous buff; quills below dusky ochreous along the inner edge. Total length 6·6 inches, culmen 0·95, wing 3·2, tail 2, tarsus 0·9.

*Adult female.* Like the male, but with the lesser and median wing-coverts edged with yellow, and scarcely any trace of a whitish bar across the greater coverts, the fore neck and chest thickly mottled with black spots instead of being uniform yellow. Total length 6 inches, culmen 0·9, wing 2·15, tail 1·85, tarsus 0·85.

*Hab.* Guiana.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. | Bartica Grove, British Guiana, Sept., Nov. (*H. Whitely*). | Salvin-Godman Coll. |
| *c*. ♀ ad. sk. | Atapurow River, Jan. 26 (*H. Whitely*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Maroni River, Surinam (*Kappler*). | Salvin-Godman Coll. |
| *e–g*. ♂ ♀ ad. sk. | Cayenne. | |
| *h*. ♂ ad. sk. | Cayenne. | Riocour Coll. (Named *C. rubricollis* by Vieillot.) |

### 6. Capito punctatus.

Capito punctatus, *Less. Traité*, p. 165 (1831); *Gray, Gen. B.* ii. p. 430 (1846).

Capito aurifrons, *Vigors, P. Z. S.* 1832, p. 3; *Gray, Gen. B.* ii. p. 430 (1846).

Micropogon flavicollis, *Bp. P. Z. S.* 1837, p. 120.

Bucco punctatus, *Des Murs, Iconogr. Orn.* pl. 20 (1846).

Capito flavicollis, *Gray, Gen. B.* ii. p. 430 (1846).

Micropogon auricollis, *Bp. Consp. Vol. Zygod.* p. 12 (1854).

Micropogon aurifrons, *Bp. t. c.* p. 12 (1854).

Capito peruvianus (*nec Cuv.*), *Scl. P. Z. S.* 1854, p. 115; *id. Cat. Amer. B.* p. 329 (1862, pt.).

Capito auratus (*nec Cuv.*), *Goffin, Mus. Pays-Bas*, Buccones, p. 56 (1863); *Gray, List Capit. Brit. Mus.* p. 20 (1868); *Pelz. Orn. Bras.* p. 239 (1871); *Scl. & Salv. P. Z. S.* 1873, p. 298; *id.*

*Nomencl. Av. Neotr.* p. 110 (1873); *Tacz. Orn. Pérou*, iii. p. 138 (1886).

Capito amazonicus (*nec Deville*), *Scl. & Salv. P. Z. S.* 1867, pp. 586, 979; *Gray, Hand-l. B.* ii. p. 178, no. 8492 (1870).

Capito auratus, var. amazonica, *Pelz. Orn. Bras.* p. 239 (1871).

*Adult male.* Similar to *C. niger*, but having the throat bright orange, not crimson as in that species, nor scarlet vermilion as in *C. auratus*. Total length 6 inches, culmen 0·9, wing 3·4, tail 2·1, tarsus 0·85.

*Adult female.* Similar to the female of *C. niger*, and strongly spotted with black below, but distinguished by the orange throat. Total length 6 inches, culmen 0·85, wing 3·4, tail 2·1, tarsus 0·85.

*Hab.* Colombia, Ecuador, Eastern Peru, and Upper Amazonia to Bolivia.

| | | |
|---|---|---|
| *a–f.* ♂ ♀ ad. sk. | Bogota. | |
| *g.* ♂ ad. sk. | Rio Napo. | Gould Coll. |
| *h.* ♀ ad. sk. | Rio Napo (*L. Fraser*). | Sclater Coll. |
| *i, k.* ♂ ♀ ad. sk. | Sarayacu, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *l.* ♀ ad. sk. | E. Peru. | Sclater Coll. |
| *m.* ♀ ad. sk. | E. Peru (*Fare*). | Salvin-Godman Coll. |
| *n, o.* ♂ ad. et juv. sk. | Rio Javari (*H. W. Bates*). | Sclater Coll. |
| *p.* ♂ ad. sk. | Yquitos, Aug. 30 (*H. Whitely*). | Salvin-Godman Coll. |
| *q, r.* ♂ ♀ ad. sk. | Chamicuros (*J. Hauxwell*). | Gould Coll. |
| *s.* ♂ ad. sk. | Barcellos, Brazil, Aug. 31 (*J. Natterer*). | Salvin-Godman Coll. |
| *t, u.* ♂ ad. et juv. sk. | Pillon, Bolivia (*C. Buckley*). | Salvin-Godman Coll. |

### 7. Capito auratus.

Le Barbu orangé du Pérou, *Levaill. Hist. Nat. Barbus*, pl. 27 (1806).

Bucco auratus, *Dumont, Dict. Sc. Nat.* iv. p. 54 (1816).

? Bucco peruvianus, *Cuv. Règne Anim.* p. 428 note (1817).

Micropogon aureus, *Temm. Pl. Col.* iii. *Genre Barbu*, p. 2 (1830); *Bp. Consp.* i. p. 142 (1850).

Capito peruvianus, *Gray, Gen. B.* ii. p. 430 (1846); *Scl. Cat. Amer. B.* p. 329 (1862, pt.); *id. & Salv. P. Z. S.* 1866, p. 195.

Capito cayannensis (*nec Gm.*), *Cab. in Schomb. Reis. Brit. Guian.* iii. p. 720 (1848).

Capito amazonicus, *Deville et Des Murs, Rev. Zool.* 1849, p. 171; *Scl. & Salv. P. Z. S.* 1867, p. 753; *Gray, List Capit. Brit. Mus.* p. 21 (1868); *Tacz. Orn. Pérou*, iii. p. 139 (1886).

Micropogon peruvianus, *Bp. Consp. Vol. Zygod.* p. 12 (1854).

Capito auratus, *Gray, Hand-l. B.* ii. p. 178, no. 8491 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873, pt.); *Tacz. P. Z. S.* 1874, p. 549; *Scl. & Salv. P. Z. S.* 1879, p. 634.

Capito niger (*nec Bodd.*), *Bartlett, P. Z. S.* 1882, p. 347.

*Adult male.* Similar to *C. niger*, but differing in the orange-coloured edges to the feathers of the lower back; the whole crown straw-yellow, with a little tinge of scarlet on the fore

part: the throat more of an orange-scarlet, the breast washed with orange, and the sides not spotted with black, though there are some indistinct blackish centres to the feathers of the sides of the body: "bill horny black: feet lead-colour" (*Taczanowski*). Total length 7·3 inches, culmen 0·9, wing 3·25, tail 2·05, tarsus 0·9.

*Adult female.* Differs from the female of *C. niger* much in the same way as the male does, and has the fore neck and breast spotted with black centres to the feathers: the wing-coverts are all edged with orange. Total length 7·3 inches, culmen 0·9, wing 2·45, tail 2, tarsus 0·9.

*Hab.* Guiana to the Rio Negro and Upper Amazon.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Guiana. | Sir R. Schomburgk [C.]. |
| *b.* ♂ ad. sk. | Oyapock, Cayenne (*Jelski*). | Sclater Coll. |
| *c.* ♂ ad. sk. | Ega, R. Amazon. | H. W. Bates, Esq. [C.]. |
| *d.* ♀ ad. sk. | Pebas (*E. L. Layard*). | Tweeddale Coll. |
| *e.* ♀ ad. sk. | Pebas, July 2 (*J. Haux-well*). | Salvin-Godman Coll. |

### 8. Capito richardsoni. (Plate V. fig. 3.)

Capito richardsoni, *Gray, Gen. B.* ii. p. 430, pl. 106 (1846); *Scl. Cat. Amer. B.* p. 329 (1862, pt.); *Gray, List Capit. Brit. Mus.* p. 22 (1868, pt.); *id. Hand-l. B.* ii. p. 178, no. 8498 (1870); *Marshall, Monogr. Capit.* p. 173, pl. 69 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873, pt.).

Capito sulphureus, *Eyton, Contr. Orn.* 1849, p. 130.

Eubucco richardsoni, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 13 (1854).

*Adult male.* General colour grass-green, with edgings of golden olive to the dorsal feathers in some specimens; wing-coverts like the back: bastard-wing, primary-coverts, and quills dusky brown, externally olive-green, the greater coverts also olive: tail-feathers dull olive-green; crown of head very dark crimson, as well as the sides of the face and ear-coverts: lores blackish; round the hind neck a broad collar of blue-grey, separated by a blackish shade from the crimson of the head; cheeks and throat bright sulphur-yellow, with a large chin-spot of dark crimson; fore neck washed with vermilion, which deepens into a large patch of scarlet-vermilion on the breast; remainder of under surface of body pale sulphur-yellow; the lower flanks, vent, and under tail-coverts white slightly tinted with yellow; the sides of the body, flanks, and under tail-coverts very broadly streaked with dark green; under wing-coverts yellowish white, with a dusky patch near the edge of the wing; quills dusky below, yellowish buff along the inner webs. Total length 5·5 inches, culmen 0·65, wing 2·7, tail 1·8, tarsus 0·75.

*Adult female.* Differs from the male in being olive-green with a slight golden wash; forehead hoary grey, as well as a narrow eyebrow, the latter terminating in a streak of golden yellow down

the sides of the neck; lores and a broad band through the eye to the ear-coverts black; cheeks and throat ashy grey with a slight yellowish tinge; across the fore neck a band of golden yellow; breast sulphur-yellow, more or less mixed with ashy; remainder of under surface as in the male. Total length 5 inches, culmen 0·7, wing 2·65, tail 1·6, tarsus 0·7.

*Hab.* Ecuador.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Rio Napo, Ecuador. | Salvin-Godman Coll. |
| *b*. ♀ ad. sk. | Rio Napo (*Jameson*). | Sclater Coll. |
| *c*. ♀ ad. sk. | Rio Napo. | Gould Coll. |
| *d*. ♂ ad. sk. | Ecuador. | Sclater Coll. |
| *e*, *f*. ♂ ♀ ad. sk. | Sarayacu, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *g*. ♂ ad. sk. | Sarayacu (*C. Buckley*). | Sclater Coll. |
| *h*, *i*. ♂ ♀ ad. sk. | Intac, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |

### 9. Capito granadensis. (Plate V. fig. 5.)

Capito richardsoni (*nec Gray*), *Sclat. P. Z. S.* 1855, p. 162; *id. Cat. Amer. B.* p. 329 (1862, pt.); *Goffin, Mus. Pays-Bas*, Buccones, p. 59 (1863); *Gray, List Capit. Brit. Mus.* p. 22 (1868, pt.); *Salvin, Ibis*, 1870, p. 112; *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873, pt.).

*Adult male.* Very similar to *C. richardsoni*, but differs in having the chin-spot black instead of crimson. Total length 4·7 inches culmen 0·6, wing 2·6, tail 1·8, tarsus 0·75.

*Hab.* U. S. of Colombia.

| | | |
|---|---|---|
| *a*, *b*, *c*. ♂ ♀ ad. sk. | Bogota. | Salvin-Godman Coll. |
| *d*, *e*. ♀ ad. sk. | Bogota. | Purchased. |
| *f*. ♀ ad. sk. | Sclater Coll. | Sclater Coll. |

### 10. Capito aurantiicollis.

Eubucco aurantiicollis, *Scl. P. Z. S.* 1857, p. 267.
Capito hartlaubi (*nec Lafr.*), *Scl. P. Z. S.* 1857, p. 267.
Capito aurantiicollis, *Scl. Ibis*, 1861, p. 119; *id. Cat. Amer. B.* p. 329 (1862); *Scl. & Salv. P. Z. S.* 1866, p. 196; *Gray, List Capit. Brit. Mus.* p. 22 (1868); *id. Hand-l. B.* ii. p. 178, no. 8499 (1870); *Salv. Ibis*, 1870, p. 112; *Marshall, Monogr. Capit.* p. 175, pl. 70 (1871); *Scl. & Salv. P. Z. S.* 1873, p. 298; *id. Nomencl. Av. Neotr.* p. 110 (1873); *Taczan. P. Z. S.* 1874, p. 549; *id. Orn. Pérou*, iii. p. 141 (1886).
Capito melanotis, *Scl. & Salv. P. Z. S.* 1866, p. 196.

*Adult male.* Similar to *C. richardsoni*, but differing in the clearer crimson colour of the head, sides of face, and chin, and especially in the colour of the nape-band, which is pale sulphur-yellow instead of grey: "bill grey above, yellowish along the edges of the mandibles and the remainder greenish; feet greyish olive; iris dark

grey" (*Taczanowski*). Total length 6·4 inches, culmen 0·75, wing 2·65, tail 1·85, tarsus 0·7.

*Adult female.* Similar to the female of *C. richardsoni*, but with a black forehead, golden-yellow crown, verditer-blue eyebrow and ear-coverts, black chin, and greenish-yellow throat, followed by a broad orange collar. Total length 6 inches, culmen 0·75, wing 2·9, tail 1·8, tarsus 0·8.

*Hab.* Upper Amazons valley.

| | | |
|---|---|---|
| *a, b.* ♂ ad. sk. | Rio Javari (*H. W. Bates*). | Sclater Coll. (Types of the species.) |
| *c, d.* ♂ ♀ ad. sk. | Rio Javari. | H. W. Bates, Esq. [C.]. |
| *e, f.* ♂ ♀ ad. sk. | Samiria, E. Peru (*J. Hauxwell*). | Salvin-Godman Coll. |
| *g, h.* ♂ ♀ ad. sk. | Sarayacu, E. Peru, Aug. (*E. Bartlett*). | Salvin-Godman Coll. |
| *i, k.* ♂ ♀ ad. sk. | River Ucayali, July (*J. Hauxwell*). | Gould Coll. |

### 11. Capito steerii. (Plate V. fig. 2.)

Capito steerii, *Scl. & Salv. P. Z. S.* 1878, p. 140, pl. 12 (fig. inacc.); *Tacz. P. Z. S.* 1882, p. 45; *id. Orn. Pérou*, iii. p. 143 (1886).

*Adult male.* Similar to *C. richardsoni* as regards the colour of the under surface of the body, but with a much larger patch of crimson on the throat; the head and sides of face are brighter crimson, and are followed by a collar of light cobalt-blue round the hind neck: "beak clear yellow, bluish at base; feet black; iris dark reddish brown" (*Stolzmann*). Total length 5 inches, culmen 0·8, wing 2·9, tail 1·9, tarsus 0·7.

*Hab.* Peru.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Huambo, Peru, March 12 (*J. Stolzmann*). | Sclater Coll. |

### 12. Capito versicolor. (Plate V. fig. 1.)

Le Barbu des Maynas, *Briss. Orn.* iv. p. 102, pl. vii. fig. 3 (1760); *Daubent. Pl. Enl.* vii. p. 330.
Le Beau Tamatia, *Buff. Hist. Nat. Ois.* vii. p. 98 (1780).
Bucco versicolor, *P. L. S. Müll. Syst. Nat. Suppl.* p. 88 (1766); *Cass. Proc. Acad. Philad.* 1864, p. 242.
Beautiful Barbet, *Lath. Gen. Syn.* i. pt. 2, p. 498 (1782).
Bucco pictus, *Bodd. Tabl. Pl. Enl.* p. 20 (1783).
Bucco elegans, *Gm. Syst. Nat.* i. p. 406 (1788).
Le Barbu élégant, *Levaill. Hist. Nat. Barbus*, p. 76, pl. 34 (1806).
Capito maynalensis, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 497 (1816).
Capito maynanensis, *Gray, Gen. B.* ii. p. 430 (1846).
Eubucco elegans, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 13 (1854).
Eubucco pictus, *Scl. P. Z. S.* 1857, p. 268.
Capito pictus, *Scl. Ibis*, 1861, p. 187; *Goffin, Mus. Pays-Bas*, Buccones, p. 63 (1863).

Capito versicolor, *Gray, List Capit. Brit. Mus.* p. 21 (1868); *id. Hand-l. B.* ii. p. 178, no. 8496 (1870); *Marshall, Monogr. Capit.* p. 171, pl. 68 (1871); *Scl. P. Z. S.* 1873, pp. 781, 783; *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873); *id. P. Z. S.* 1879, p. 634; *Taczan. Orn. Pérou*, iii. p. 141 (1886).

*Adult male.* General colour bright grass-green, slightly inclining to olive on the mantle; wing-coverts like the back; bastard-wing, primary-coverts, and quills dusky brown, externally olive-green; tail-feathers olive-green, brighter green on the edges; crown of head as far as the nape scarlet; hind neck with a band of silvery cobalt; lores black; ear-coverts scarlet like the crown; cheeks silvery cobalt, forming a broad band; chin black; throat crimson, followed by a narrow line of silvery cobalt, which is bordered by an orange shade; fore neck and chest bright yellow; on the breast a large scarlet patch; remainder of under surface of body pale yellow; the sides of body and flanks broadly streaked with green; thighs yellow; under tail-coverts yellow, streaked with green; under wing-coverts white with a yellow tinge; quills below dusky brown, yellow along the inner edge. Total length 6 inches, culmen 0·8, wing 2·85, tail 2·1, tarsus 0·75.

*Adult female.* Different from the male, wanting the scarlet on the head, which is olive-yellowish; forehead verditer-blue, with a basal line of black like the lores; sides of face, ear-coverts, and throat verditer-blue, followed by a bar of scarlet across the lower throat; fore neck and chest pale emerald-green with a wash of verditer-blue. Total length 5·5 inches, culmen 0·85, wing 2·9, tail 2, tarsus 0·8.

*Hab.* Bolivia and Peru.

| | | | |
|---|---|---|---|
| *a.* ♂ ad. sk. | Interior of Bolivia. | Sclater Coll. |
| *b.* ♀ ad. sk. | Tilotilo, Bolivia (*C. Buckley*). | Sclater Coll. |
| *c.* ♂ ad.; *d, e.* ♀ ad. sk. | Tilotilo (*C. Buckley*). | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Huiro, Valley of Urubamba, Peru, 4800 ft. (*J. Orton*). | Salvin-Godman Coll. |

### 13. Capito glaucogularis.

Capito glaucogularis, *Tschudi, Arch. f. Naturg.* 1844, p. 301; *id. & Cab. Faun. Peruan., Aves*, p. 259, tab. xxiv. fig. 2 (1855); *Scl. Ibis*, 1861, p. 190; *Goffin, Mus. Pays-Bas*, Buccones, p. 164 (1863); *Gray, List Capit. Brit. Mus.* p. 21 (1868); *id. Hand-l.* ii. p. 178, no. 8501 (1870); *Marshall, Monogr. Capit.* p. 169, pl. 67 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873).

Micropogon glaucogularis, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 12 (1854).

Capito erythrocephalus, *Tschudi & Cab. Faun. Peruan., Aves*, p. 260 (1855).

Capito tschudii, *Scl. Ibis*, 1861, p. 188; *Goffin, Mus. Pays-Bas*, Buccones, p. 64 (1868); *Gray, Hand-l. B.* ii. p. 178, no. 8500.

*Adult male.* Similar to *C. versicolor*, but differing in the colour of the throat and cheeks, the latter being sulphur-yellow like the

fore neck and chest; chin black, followed by a crimson patch, the lower throat silvery cobalt, followed by a distinct orange collar; on the breast a small patch of scarlet. Total length 6 inches, culmen 0·8, wing 2·9, tail 2·05, tarsus 0·8.

*Hab.* Peru.

*a.* ♂ ♀ ad. sk. Peru. Salvin-Godman Coll.

### 14. Capito bourcieri. (Plate V. fig. 6.)

Micropogon bourcieri, *Lafr. Rev. Zool.* 1845, p. 179; *id. Rev. Zool.* 1849, p. 116, pl. 4.

Micropogon hartlaubi, *Lafr. Rev. Zool.* 1845, p. 180; *id. Rev. Zool.* 1849, p. 116, pl. 6.

Capito bourcieri (= ♂), *Gray, Gen. B.* ii. p. 430 (1846); *Scl. P. Z. S.* 1854, p. 115, 1855, p. 162; *id. Ibis*, 1861, p. 188; *id. Cat. Amer. B.* p. 329 (1862); *Goffin, Mus. Pays-Bas*, Buccones, p. 58 (1863); *Gray, List Capit. Brit. Mus.* p. 22 (1868); *id. Hand-l. B.* ii. p. 178, no. 8497 (1870); *Salv. Ibis*, 1870, p. 111; *Marshall, Monogr. Capit.* p. 165, pl. 66 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873, pt.); *id. P. Z. S.* 1879, p. 538.

Capito hartlaubi (= ♀), *Gray, Gen. B.* ii. p. 430 (1846); *Scl. P. Z. S.* 1854, p. 115, 1855, p. 162; *id. Ibis*, 1861, p. 189; *id. Cat. Amer. B.* p. 330 (1862); *Goffin, Mus. Pays-Bas*, Buccones, p. 61 (1863); *Gray, List Capit. Brit. Mus.* p. 22 (1868).

Capito capistratus, *Eyton, Contr. Orn.* 1849, p. 131.

Megalaima capistratus, *Eyton, Contr. Orn.* 1850, p. 29, pl. 45.

Eubucco bourcieri, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 13 (1854); *Scl. P. Z. S.* 1859, p. 146, 1860, pp. 95, 297.

Eubucco hartlaubi, *Bp. Consp.* i. p. 142 (1850); *id. Consp. Vol. Zygod.* p. 13 (1854); *Scl. P. Z. S.* 1857, p. 267, 1858, p. 75.

*Adult male.* General colour above bright grass-green, wing-coverts like the back; bastard-wing, primary-coverts, and quills dusky brown, externally green, the primaries a little more olive-green on their margins; tail-feathers olive-green, with bluish-green edges; crown of head bright scarlet as far as the nape. On the side of the neck a silvery-white vertical band, almost meeting and forming a collar on the hind neck; lores and feathers round eye black; ear-coverts, sides of face, cheeks, throat, and fore neck scarlet; breast pale yellow, fading off into white on the abdomen; sides of body and flanks white, streaked with broad green centres to the feathers; thighs white; under tail-coverts white with green centres; under wing-coverts white with a yellowish tinge; quills below dusky, tawny buff on inner edge. Total length 6 inches, culmen 0·8, wing 2·8, tail 1·85, tarsus 0·75.

*Adult female.* Differs from the male. The scarlet on the head and face is wanting; the crown, nape, and hind neck dull golden yellow; lores and forehead black, followed by a band across the sinciput of verditer-blue, like the sides of the face and ear-coverts; chin black; throat apple-green, followed by a collar of bright orange, extending upwards towards the sides of the neck, where a vertical band of golden olive replaces the silver-grey band of the

male. Total length 6 inches, culmen 0·7, wing 2·9, tail 1·95, tarsus 0·75.

*Hab.* U. S. Colombia and Ecuador.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*, *c*, *d*. ♀ ad. sk. | Bogota. | Purchased. |
| *e*, *f*. ♂ ♀ ad. sk. | Bogota. | Tweeddale Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | Bogota. | Salvin-Godman Coll. |
| *i*, *k*. ♀ ad. sk. | Bogota. | Sclater Coll. |
| *l*. ♂ ad. sk. | Frontina, U. S. C. (*T. K. Salmon*). | Salvin-Godman Coll. |
| *m*, *n*. ♂ ad. sk. | Ecuador. | Salvin-Godman Coll. |
| *o*, *p*. ♂ ♀ ad. sk. | Sarayacu, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *q*. ♂ ad. sk. | Intac (*C. Buckley*). | Salvin-Godman Coll. |
| *r*. ♂ ad. sk. | Rio Napo. | Gould Coll. |
| *s*. ♂ ad. sk. | Esmeraldas (*L. Fraser*). | Sclater Coll. |
| *t*. ♂ ad. sk. | Nanegal (*L. Fraser*). | Sclater Coll. |

### 15. Capito salvini*. (Plate V. fig. 4.)

Capito bourcieri (*nec Lafr.*), *Salvin, P. Z. S.* 1870, p. 212; *Lawr. Ann. Lyc. N. Y.* ix. p. 130 (1870); *Boucard, P. Z. S.* 1878, p. 47.

Capito hartlaubi (*nec Lafr.*), *Lawr. Ann. Lyc. N. Y.* ix. p. 130 (1870).

*Adult male.* Similar to the male of *C. bourcieri*. Total length 5·8 inches, culmen 0·75, wing 2·7, tail 1·7, tarsus 0·8.

*Adult female.* Similar to the female of *C. bourcieri*, but without any blue-grey band across the forehead, which is black, succeeded by golden yellow, which forms a broad band across the centre of the crown. Total length 5·5 inches, culmen 0·65, wing 2·75, tail 1·8, tarsus 0·75.

*Hab.* Central America, from Panama to Costa Rica.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | [Quito]. | Gould Coll. |
| *c*, *d*. ♂ ad.; *e*. ♀ ad. sk. | Costa Rica (*J. Carmiol*). | Salvin-Godman Coll. |
| *f*. ♂ ad. sk. | Costa Rica (*J. Carmiol*). | Sclater Coll. |
| *g*. ♀ ad. sk. | Barranca, Feb. (*J. Carmiol*). | Salvin-Godman Coll. |
| *h*, *i*, *k*. ♂ ad.; *l*. ♀ ad. sk. | Chiriqui, Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *m*. ♀ ad. sk. | Chiriqui (*E. Arcé*). | Sclater Coll. |

* I have named this species after Mr. Salvin, who proved that the American members of the group, which were for years considered to be distinct, were only sexes of a much more limited number of species.

## 19. TETRAGONOPS.

| | Type. |
|---|---|
| Tetragonops, *Jard. Edinb. Phil. Journ.* n. s. i. p. 404 (1855) | T. rhamphastinus. |

*Range.* Ecuador; Costa Rica.

*Key to the Species.*

*a.* Colours varied; head black, sides of face and throat blue-grey; breast scarlet ..... *rhamphastinus*, p. 120.
*b.* Colours simple; olive with golden yellow on the forehead and reddish olive on the throat ..... *frantzii*, p. 121.

### 1. Tetragonops rhamphastinus.

Tetragonops rhamphastinus, *Jard. Edinb. Phil. Journ.* n. s. i. p. 404 (1855), iii. p. 92, pl. iv. (1856); *Scl. Ibis*, 1859, p. 403 note, 1866, p. 184, pl. vi., 1862, p. 2; *Goffin, Mus. Pays-Bas*, Buccones, p. 93 (1863); *Gray, List Capit. Brit. Mus.* p. 19 (1868); *id. Hand-l. B.* ii. p. 177, no. 8488 (1870); *Marshall, Monogr. Capit.* p. 1, pl. i. (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873); *Garrod, P. Z. S.* 1878, p. 932; *Tacz. & Berl. P. Z. S.* 1885, p. 116.

*Adult.* General colour above dark golden brown, with a band of golden yellow across the lower back, the rump and upper tail-coverts also washed with golden yellow; scapulars like the back; wing-coverts slaty blue, including the innermost secondaries; bastard-wing and primary-coverts blackish, externally washed with olive-yellow or tinged with slaty blue; tail-feathers dark slaty blue; crown of head glossy black, produced into a nuchal crest of elongated feathers, which overhang the mantle; hind neck also glossy black; lores and feathers round eye, as well as the base of the cheeks, black; a broad white streak along the sides of the hinder crown; sides of the face, ear-coverts, cheeks, and entire throat pale greyish blue; the chin white; fore neck bright glossy scarlet, which colour extends down the centre of the breast, which is otherwise dark golden yellow; flanks, thighs, vent, and under tail-coverts dull green, the latter washed with yellow; under wing-coverts ashy grey, with a blue shade near the edge of the wing; quills below dusky blackish, pale yellow along the edge. Total length 8·5 inches, culmen 0·59, wing 4·25, tail 3·2, tarsus 1·15.

*Hab.* Ecuador.

| | | |
|---|---|---|
| *a, b, c.* Ad. sk. | Ecuador. | Gould Coll. |
| *d, e, f, g.* Ad. sk. | Ecuador. | Salvin-Godman Coll. |
| *h.* Ad. sk. | Ecuador. | Sclater Coll. |
| *i, k.* Ad. sk. | Intac, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Quito, Ecuador. | Purchased. |

### 2. Tetragonops frantzii.

Tetragonops frantzii, *Scl. Ibis*, 1864, p. 371, pl. x.; *Frantz. Ibis*, 1865, p. 551; *Lawr. Ann. Lyc. N. Y.* ix. pp. 87, 130 (1868); *Gray, List Capit. Brit. Mus.* p. 19 (1868); *id. Hand-l. B.* ii. p. 177, no. 8489 (1870); *Marshall, Monogr. Capit.* p. 3, pl. ii. (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 110 (1873); *Boucard, P. Z. S.* 1878, p. 47.

*Adult male.* General colour above olive-green, the head, mantle, and back more ochraceous; wing-coverts olive-green, as also the outer webs of the secondaries, the primaries externally dull olive-yellow; tail-feathers dull olive-green; on the nape a tuft of elongated glossy black feathers, extending on to the mantle; head like the back, but a little more washed with golden yellow, which is very prominent on the forehead and over the eye; lores black; sides of face, ear-coverts, cheeks, throat, and chest reddish ochre, the base of the chin blackish; remainder of under surface of body greenish, mixed with ashy, the breast washed with golden, the abdomen with pale yellow; sides of upper breast hoary grey. Total length 7·3 inches, culmen 0·8, wing 3·45, tail 2·3, tarsus 0·9.

*Adult female.* Similar to the male in colour. Total length 7·5 inches, culmen 0·7, wing 3·4, tail 2·4, tarsus 0·95.

*Hab.* Costa Rica.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | Costa Rica. | Purchased. |
| *d*, *e*. ♂ ♀ ad. sk. | Costa Rica (*Von Frantzius*). | Sclater Coll. |
| *f*, *g*. ♂ ♀ ad. sk. | Costa Rica (*J. Carmiol*). | Salvin-Godman Coll. |
| *h*. ♂ ad. sk. | Navarro, Costa Rica, Jan. (*J. Cooper*). | Salvin-Godman Coll. |
| *i*, *k*. Ad. sk. | Irazu district, Costa Rica (*H. Rogers*). | Salvin-Godman Coll. |
| *l*. Ad. sk. | Veragua. | Salvin-Godman Coll. |

# Family RHAMPHASTIDÆ.

(By P. L. SCLATER.)

(See vol. xviii. p. 1.)

The *Rhamphastidæ* constitute a well-marked family of the *Scansores* or Zygodactylous *Picariæ*, recognizable at first sight by the extraordinary shape and size of the bill, in which respect they are rivalled only by the Anisodactylous *Bucerotidæ* of the Palæogean Tropics. This organ (which has been elaborately described by Sir R. Owen in Gould's 'Monograph') presents a remarkable combination of great bulk with sufficient strength and extraordinary lightness. The interior of the cavity in both mandibles is occupied by a fine network of bony fibres, arranged so as to give great strength to the external parietes without much weight. The development of the bill is carried to its greatest extent in typical *Rhamphastos*, and gradually decreases in the less normal forms.

The tongue of the *Rhamphastidæ* (also well described by Sir R. Owen) is likewise peculiar. The anterior portion consists of a long, narrow, thin lamina, flattened horizontally, and supported by the anterior process of the hyoid bone, which forms a ridge beneath it. It measures nearly six inches in length in the larger species. At about four inches from its extremity it is obliquely notched on both

Truncated vomer of *Rhamphastos ariel*, with posterior parts of palatines.
(From P. Z. S. 1878, p. 933.)

sides, and these notches become deeper and deeper towards the apex, giving it a strongly bristled appearance.

As in the *Capitonidæ*, in which family these birds have their

nearest relatives, the oil-gland of the Toucans is tufted, there are no cæca, and the rectrices are reduced to ten in number. But the *Rhamphastidæ*, as pointed out by Garrod (P. Z. S. 1878, p. 933), differ structurally from the *Capitonidæ* in the form of the vomer, which in the *Rhamphastidæ* presents a large tabular truncation at its anterior extremity, instead of being bifurcate, as in the *Capitonidæ*, and sending forth its limbs to join the maxillo-palatines.

The *Rhamphastidæ* are confined to the Neotropical Region, and are distributed more or less thickly over the wooded districts of that Region, from Southern Mexico to Northern Argentina. They do not occur in the Antilles, on the western slope of the South-American Andes south of the Gulf of Guyaquil, or in any part of the Patagonian Subregion. The species seem to be most numerous in the great wood-region of Amazonia.

So far as the nesting of this family is known to us, the eggs are always laid in hollow trees. Their form is regularly oval, and their colour white, of a fine grain, and slightly shining. (*Cf.* Des Murs, Ool. Anal. p. 234.)

The *Rhamphastidæ* were first monographed by Levaillant *, who, however, was only acquainted with about 7 or 8 species, and those very imperfectly. Early in the ornithological career of John Gould this brilliant group attracted his attention, and his well-known Monograph of them was completed in 1834. A second and revised edition of the Monograph was published in 1854. In 1867 John Cassin published, in the 'Proceedings' of the Academy of Natural Sciences of Philadelphia, an excellent review of the species of *Rhamphastidæ*, based on the specimens in the Academy's Collection. This is the most recent authority on the subject.

*Key to the Genera.*

A. Bill very large and broad; nostrils opening backwards behind the casque: sexes alike. [p. 124.
1. RHAMPHASTOS,

B. Bill not large; nostrils opening upwards at the edge of the casque.

*a*. Nostrils rounded, placed on the sides of the culminal ridge.

*a'*. Bill longer, more than twice the length of the head; sexes alike or nearly so:

bill wider at base, culmen narrower ..... 2. ANDIGENA, p. 133.

bill narrower at base, culmen wider ..... [p. 137.
3. PTEROGLOSSUS,

*b'*. Bill shorter, less than twice the length of the head: sexes different ..... 4. SELENIDERA, p. 148.

*b*. Nostrils elongated, lateral, placed beneath the culminal ridge: sexes alike ..... [p. 153.
5. AULACORHAMPHUS,

* 'Histoire Naturelle des Oiseaux de Paradis,' vol. ii. Paris, 1806.

## 1. RHAMPHASTOS.

| | Type. |
|---|---|
| Ramphastos, *Linn. S. N.* i. p. 150 (1766) ..... | R. erythrorhynchus. |
| Tucaius, *Bp. Consp. Vol. Zyg.* p. 4 (1854) ..... | R. dicolorus. |
| Burhynchus, *Cassin, Proc. Ac. Phil.* 1867, p. 102. | R. carinatus. |
| Tucanus, *Cassin, op. cit.* p. 104..... | R. erythrorhynchus. |
| Ramphodryas, *Cassin, op. cit.* p. 106 ..... | R. ariel. |

This genus embraces the largest and strongest species of the family. They are mostly black and white in colour, varied with scarlet and orange.

The area of *Rhamphastos* is co-extensive with that of the family, or very nearly so. The most northern species is *R. carinatus*, which is met with in the Mexican province of Vera Cruz: and the most southern, *R. toco*, which extends into the confines of the Argentine Republic.

In *Rhamphastos* the sexes are similarly coloured.

*Key to the Species.*

A. Upper tail-coverts white.
- *a.* Throat white ..... 1. *toco*, p. 124.
- *b.* Throat yellow.
  - *a'.* Cap black; nape reddish brown:
    - scarlet breast-band narrow .... 2. *carinatus*, p. 125.
    - scarlet breast-band wide ..... 3. *brevicarinatus*, p. 126.
  - *b'.* Cap and nape reddish brown:
    - base of bill obscure ..... 4. *tocard*, p. 127.
    - base of bill light reddish ..... 5. *ambiguus*, p. 128.

B. Upper tail-coverts yellow or orange.
- *c.* Bill red, with pale basal and culminal bands..... 6. *erythrorhynchus*, p. 128.
- *d.* Bill black, with pale basal and culminal bands.
  - *c'.* Black of bill with a reddish basal spot. 7. *inca*, p. 129.
  - *d'.* Black of bill uniform.
    - *a''.* Throat white, or very slightly tinged with yellow:
      - larger ..... 8. *cuvieri*, p. 130.
      - smaller ..... 9. *culminatus*, p. 130.
    - *b''.* Throat lemon-yellow ..... 10. *citreolæmus*, p. 131.
    - *c''.* Throat yellow ..... 11. *osculans*, p. 131.

C. Upper tail-coverts scarlet.
- *e.* Bill black, with a light basal band:
  - whole throat orange ..... 12. *ariel*, p. 131.
  - sides of throat white ..... 13. *vitellinus*, p. 132.
- *f.* Bill greenish, with black basal band .. 14. *dicolorus*, p. 133.

### 1. Rhamphastos toco.

Toucan de Cayenne, appellé Toco, *Daub. Pl. Enl.* 82.

Ramphastos toco, *Müll. Syst. Nat. Suppl.* p. 82; *Gm. S. N.* i. p. 356; *Lath. Ind. Orn.* i. p. 135; *Max. Beitr.* iv. p. 271; *Wagl. Syst. Av.* sp. 1; *Burm. Syst. Ueb.* ii. p. 203; *Cab. in Schomb. Guian.* iii. p. 721; *Gould, P. Z. S.* 1834, p. 74; *id. Mon. Ramph.* ed. 1, pl. 6, et ed. 2, pl. 1; *Sturm, Mon. Ramph.* pt. iii. pl. i.; *Bp. Consp.* i. p. 93; *Sel.*

*Cat. A. B.* p. 324; *Pelz. Orn. Bras.* p. 233; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 100; *Scl. et Salv. Nomencl.* p. 108; *White, P. Z. S.* 1882, p. 620 (Arg. Rep.); *Salv. Ibis*, 1886, p. 65 (Brit. Guian.); *Berl. J. f. O.* 1887, pp. 25, 121 (Paraguay); *Scl. et Huds. Arg. Orn.* ii. p. 40.

Le Toco, *Levaill. Ois. de Par.* ii. p. 7, pl. 2.

Tucáno, *Azara, Apunt.* i. p. 236 (Paraguay).

Ramphastos magnirostris, *Sw. Class. B.* ii. p. 299 (?).

Ramphastos albogularis, *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 101 (S. Brazil).

Above black; rump white: beneath black; throat and fore neck white, slightly tinged with yellow on the neck and narrowly bordered with red; crissum crimson; bill orange, with a large black blotch at the end of the upper mandible: whole length 22 inches, wing 8·5, tail 6, bill from gape 6·4. *Female* similar.

*Hab.* Guiana, Lower Amazonia, Brazil, Bolivia, Paraguay, and N. Argentina.

The more southern bird has been separated as *R. albogularis*; but I fail to appreciate any sufficiently distinctive characters, although the throat in southern specimens is perhaps rather more white.

| | | |
|---|---|---|
| *a*. Ad. st. | British Guiana. | R. Schomburgk [C.]. |
| *b*. Ad. sk. | British Guiana. | R. Schomburgk [C.]. |
| *c*. Ad. sk. | Demerara. | Salvin-Godman Coll. |
| *d*, *e*. ♂ ♀ ad. sk. | Para. | Gould Coll. |
| *f*. Ad. sk. | Mexiana, Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *g*. Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *h*. ♂ ad. sk. | Pelotas, Rio Grande do Sul (*Joyner*). | Salvin-Godman Coll. |
| *i*, *k*. Ad. sk. | Chapada, Mato Grosso (*H. H. Smith*). | Salvin-Godman Coll. |

## 2. Rhamphastos carinatus.

Ramphastos piscivorus, *Linn. S. N.* i. p. 151; *Gmel. S. N.* i. p. 355; *Lath. Ind. Orn.* i. p. 136; *Bp. Consp.* i. p. 93; *Lawr. Ann. Lyc. N. Y.* viii. p. 183 (Nicaragua); *Scl. Cat. A. B.* p. 324.

Ramphastos carinatus, *Sw. Zool. Ill.* ser. 1, vol. i. pl. 45; *Wagl. Syst. Av.* sp. 7; *Gould, P. Z. S.* 1834, p. 73; *id. Monogr. Ramph.* ed. 1, pl. 7, et ed. 2, pl. 2; *Sturm, Mon. Ramph.* pt. iii. pl. 2; *Bp. P. Z. S.* 1837, p. 108; *Tsch. Faun. Per., Aves*, p. 261; *Scl. P. Z. S.* 1856, p. 308 (S. Mexico), 1859, p. 59 (Honduras), et pp. 368, 388 (S. Mexico); *Scl. et Salv. Ibis*, 1859, p. 135; *iid. P. Z. S.* 1870, p. 837 (Honduras); *iid. Nomencl.* p. 108; *Cassin, Pr. Ac. Sc. Philad.* 1867, p. 102; *Salv. Ibis*, 1889, p. 373 (Yucatan); *Ridgw. P. U. S. N. M.* vi. p. 407 (Nicaragua), et ix. p. 163 (Mexico); *Bouc. P. Z. S.* 1883, p. 455 (Yucatan).

Ramphastos tucanus, *Shaw, Gen. Zool.* viii. p. 362.

Ramphastos callorhinchus, *Wagl. Syst. Av.* sp. 6.

Ramphastos sulfuratus, *Less. Tr. d'Orn.* p. 173.

Above black; rump white; nape stained with dark maroon-purple; beneath black; throat and fore neck clear yellow, with a faint scarlet border below; crissum scarlet; bill dark, with a large

yellow blotch on the upper mandible and red tip: whole length 21 inches, wing 8, tail 6·8, bill from gape 5·8. *Female* similar.

*Hab.* Southern Mexico, Yucatan, Guatemala, Honduras, and Nicaragua.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Rio Rancho Nuevo, near Misantla, Vera Cruz, Mexico (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *b, c.* ♀ ad. sk. | Misantla, Mexico (*Godman*). | Salvin-Godman Coll. |
| *d.* ♀ ad. sk. | Colipa, Vera Cruz, Mexico (*Godman*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Hacienda de los Atlixcos, Vera Cruz, Mexico (*Godman*). | Salvin-Godman Coll. |
| *f.* ♂ ad. sk.; *g.* Ad. sk. | Vega del Casadero, Vera Cruz (*Trujillo*). | Salvin-Godman Coll. |
| *h, i.* ♂ ♀ ad. sk. | S. Lorenzo, Cordova, Mexico (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *k.* Ad. sk. | Atoyac, Vera Cruz, Mexico (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *l, m.* ♀ ad. sk. | Vera Cruz (*W. B. Richardson*). | Salvin-Godman Coll. |
| *n.* Ad. sk. | Teapa, Tabasco, Mexico (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *o.* Ad. sk. | Valley of Mexico (*l'Estrange*). | Salvin-Godman Coll. |
| *p.* Ad. sk. | Jalapa, Mexico (*de Oca*). | Sclater Coll. |
| *q, r.* ♂ ♀ ad. sk. | Mexico. | Gould Coll. |
| *s.* Ad. st. | Mexico. | Purchased. |
| *t.* Jr. sk. | Meco I., Yucatan (*Gaumer*). | Salvin-Godman Coll. |
| *u.* Ad. sk. | Northern Yucatan (*Gaumer*). | Salvin-Godman Coll. |
| *v–x.* Ad. sk. | Orange Walk, Brit. Honduras (*Gaumer*). | Salvin-Godman Coll. |
| *y.* Ad. sk. | Belize (*Blancaneaux*). | Salvin-Godman Coll. |
| *z.* ♀ ad. sk. | Choctum, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *a′.* Ad. sk. | Sources of the Rio de la Pasion, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *b′.* Ad. sk. | Lanquin, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *c′.* Ad. sk. | Vera Paz (*Salvin*). | Sclater Coll. |
| *d′.* Ad. sk. | Cahabon, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *e′.* Ad. sk. | Rio Dulce, Guatemala (*Salvin*). | Tweeddale Coll. |
| *f′, g′.* Ad. sk.: *h′.* Jr. sk. | San Pedro, Honduras (*Whitely*). | Gould Coll. |
| *i′.* Ad. sk. | Honduras. | E. Dyson [C.]. |

### 3. Rhamphastos brevicarinatus.

Ramphastos approximans, *Cab. J. f. O.* 1862, p. 333 (Costa Rica); *Cass. Pr. Ac. Sc. Phil.* 1867, p. 103; *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Lawr. Ann. Lyc. N. Y.* ix. p. 128 (Costa Rica).

Ramphastos brevicarinatus, *Gould, Mon. Ramph.* ed. 2, pl. iii. (1854); *Cass. Pr. Ac. Sc. Phil.* 1867, p. 103; *Salv. Ibis*, 1869, p. 317.

Ramphastos piscivorus, *Finsch, P. Z. S.* 1870, p. 585 (Trinidad).

Ramphastos carinatus, *Lawr. Ann. Lyc. N. Y.* vii. p. 299 (Panama); *Scl. et Salv. P. Z. S.* 1864, p. 366 (Panama); *Salv. P. Z. S.* 1867, p. 156, et 1870, p. 211 (Veragua); *Salv. et Godm. Ibis*, 1879, p. 206, et 1880, p. 175 (Santa Marta).

Similar to *R. carinatus*, but with the crimson cervical collar broader and well defined: generally rather smaller and bill shorter.

*Hab.* Costa Rica, Veragua, Panama, and Northern Colombia.

This is a very closely allied southern form of *R. carinatus*. I am very doubtful as to the propriety of recognizing its separation. The specimen from Santa Marta is quite as large as the Mexican bird.

| | | |
|---|---|---|
| *a*. Ad. st. | Central America. | Purchased. |
| *b*. Ad. sk. | Turrialba, Costa Rica (*Arcé*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Costa Rica (*Carmiol*). | O. Salvin, Esq. [P.]. |
| *d*. Ad. sk. | Costa Rica (*Frantzius*). | Salvin-Godman Coll. |
| *e*. ♂ ad. sk. | Chitra, Veragua (*Arcé*). | Salvin-Godman Coll. |
| *f*. ♀ ad. sk. | Santa Fé, Veragua (*Arcé*). | Salvin-Godman Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |
| *i*. Ad. sk. | Bay of Panama. | Capt. Kellett and Lt. Wood [C.]. |
| *k*. ♂ ad. sk. | Manaure, Santa Marta, U. S. C. (*Simons*). | Salvin-Godman Coll. |

## 4. Rhamphastos tocard.

Le Tocard, *Levaill. Ois. de Par.* ii. p. 25, pl. 9.

Ramphastos tocard, *Vieill. Nouv. Dict.* xxxiv. p. 281; *id. Enc. Méth.* p. 1430; *Wagl. Syst. Av.* sp. 4; *Less. Tr. d'Orn.* p. 171; *Bp. Consp.* i. p. 93; *Gould, Mon. Ramph.* ed. 2, pl. 4 (upper figure); *Scl. P. Z. S.* 1860, p. 70 (Ecuador); *id. Cat. A. B.* p. 325; *Lawr. Ann. Lyc. N. Y.* vii. p. 299 (Colombia), et ix. p. 128 (Costa Rica); *Cab. J. f. O.* 1862, p. 334 (Costa Rica); *Scl. et Salv. P. Z. S.* 1864, p. 366 (Panama), et 1879, p. 537 (Antioquia); *iid. Nomencl.* p. 108; *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Salv. P. Z. S.* 1870, p. 211 (Veragua); *id. Ibis*, 1872, p. 323 (Nicaragua); *Bouc. P. Z. S.* 1878, p. 46 (Costa Rica); *Salv. et Godm. Ibis*, 1879, p. 206 (Colombia); *Ridgw. P. U. S. N. M.* vi. p. 407 (Nicaragua), et x. p. 591 (Honduras); *Berl. et Tacz. P. Z. S.* 1885, pp. 68, 108 (Ecuador); *Tacz. Orn. Pér.* iii. p. 145.

Ramphastos ambiguus, *Tsch. Faun. Per., Aves*, p. 261.

Ramphastos swainsonii, *Gould, P. Z. S.* 1833, p. 69, et 1864, p. 73; *id. Monogr. Ramph.* ed. i. pl. 8; *Sturm, Mon. Ramph.* pt. iv. pl. i.

Ramphastos eugnathus, *Wagl. Syst. Av.* (Additamenta).

Above black; neck and upper back washed with maroon; upper tail-coverts white; beneath, throat and neck sulphur-yellow, bordered below by a scarlet band; belly black; crissum scarlet; upper mandible traversed by a diagonal black line from the nostrils to the commissure; bill above this line yellow, beneath it more or less red; whole length 24 inches, wing 9·5, tail 7, bill from gape 6·3. *Female* similar.

*Hab.* Nicaragua, Costa Rica, Panama, and Western Ecuador.

| | | |
|---|---|---|
| *a*. Ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *b*. Ad. sk. | Angostura, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | San José, Costa Rica (*Callija*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Bugaba, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *e*. ♂ ad. sk. | S. slope of Volc. of Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *f*. ♂ ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *g.* Ad. sk. | Panama (*McLeannan*). | Sclater Coll. |
| *h.* Ad. sk. | Panama. | Gould Coll. |
| *i.* Ad. sk. | Medellin, U. S. C. (*Salmon*). | Gould Coll. |
| *k.* Ad. sk. | Chiguinda, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Sclater Coll. |
| *m.* Ad. sk. | Western Coast of S. America. | Capt. Kellett and Lt. Wood [C.]. |
| *n.* Ad. sk. | Ecuador. | Gould Coll. |
| *o.* Ad. sk. | Ecuador (?). | Salvin-Godman Coll. |
| *p.* Head. | Ecuador (?). | Gould Coll. |

### 5. Rhamphastos ambiguus.

Ramphastos ambiguus, *Sw. Zool. Ill.* ser. 1, iii. pl. 168; *Gould, Mon. Ramph.* ed. 2, pl. 5; *Sclater, P. Z. S.* 1855, p. 160 (Bogota), 1859, p. 146, et 1860, p. 95 (Ecuador); *id. Cat. A. B.* p. 325; *Scl. et Salv. P. Z. S.* 1869, p. 252 (Venezuela), et 1873, p. 297 (E. Peru); *Finsch, P. Z. S.* 1870, p. 585 (Trinidad); *Berl. et Tacz. P. Z. S.* 1883, p. 573, et 1885, p. 68 (W. Ecuador).

Ramphastos swainsonii, *Gould, Mon. Ramph.* ed. 1, pl. 8 (fig. inf.).

Ramphastos abbreviatus, *Cab. J. f. O.* 1862, p. 334 (Venezuela); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 104.

Similar to *R. tocard*, but whole of the bill beneath the diagonal line black.

*Hab.* Colombia, Venezuela, Ecuador, and Eastern Peru.

I cannot say that I am satisfied as to the real distinctness of this form from *R. tocard*, some of the specimens being intermediate. In Ecuador both forms seem to occur. The Venezuelan bird has been separated as having a smaller bill, but similar small-billed examples occur in other localities.

| | | |
|---|---|---|
| *a.* Ad. st. | Bogota (?). | Purchased. |
| *b.* Jr. st. | Bogota. | Purchased. |
| *c–k.* Ad. sk. | Bogota. | Gould Coll. |
| *l.* Ad. sk. | Colombia. | Purchased. |
| *m.* ♂ ad. sk. | Manaure, Santa Marta, U. S. C. (*Simons*). | Salvin-Godman Coll. |
| *n.* ♂ ad. sk. | Guataparo, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *o, p.* Ad. sk. | Ecuador. | Gould Coll. |
| *q.* Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Sclater Coll. |
| *r.* Ad. sk. | San José, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *s.* Ad. sk. | Chayavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |

### 6. Rhamphastos erythrorhynchus.

Ramphastos tucanus, *Linn. S. N.* i. p. 151; *Gm. S. N.* i. p. 355; *Lath. Ind. Orn.* i. p. 136; *Wagl. Syst. Av.* sp. 11; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 104.

Toucan à gorge blanche de Cayenne, *Daub. Pl. Enl.* 262.

Le Tocan, *Levaill. Ois. de Par.* ii. p. 10, pl. 3.

Ramphastos erythrorhynchus, *Gm. S. N.* i. p. 355; *Wagl. Syst. Av.* sp. 2; *Pelz. Orn. Bras.* p. 233; *Gould, P. Z. S.* 1834, p. 72; *id.*

*Mon. Ramph.* ed. 1, pl. 3, *et* ed. 2, pl. 6; *Finsch, P. Z. S.* 1870, p. 584 (Trinidad); *Scl. et Salv. Nomencl.* p. 108; *Salv. Ibis*, 1886 p. 64 (Brit. Guian.).

Le Toucan à collier jaune, *Levaill. Ois. de Par.* ii. p. 13, pl. 4.

Ramphastos levaillantii, *Wagl. Syst. Av.* sp. 3.

Above black; upper tail-coverts yellow: beneath, throat and neck white; pectoral band scarlet; belly black; crissum scarlet: bill red, with a broad basal band of yellow, which is margined with black; tip of lower mandible black: whole length 22 inches, wing 9·5, tail 7, bill from gape 6·2. *Female* similar.

*Hab.* Guiana, Lower Amazonia, and Northern Brazil.

| | | |
|---|---|---|
| *a–c.* Ad. st. | British Guiana (*Schomburgk*). | R. Geogr. Soc. [P.]. |
| *d.* Ad. st. | Rio Negro. | Gould Coll. |
| *e.* ♀ ad. sk. | British Guiana. | Gould Coll. |
| *f.* ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Carimang R., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *h.* ♀ ad. sk. | Roraima, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *i.* Ad. sk. | British Guiana. | Sclater Coll. |
| *k, l.* Ad. sk. | Demerara. | Gould Coll. |
| *m, n.* ♂ ♀ ad. sk. | Rio Negro. | Gould Coll. |
| *o.* ♂ ad. sk. | Para (*Natterer*). | Salvin-Godman Coll. |
| *p.* Ad. sk. | Para (*Wallace*). | Salvin-Godman Coll. |
| *q, r.* Ad. sk. | Maranham, Brazil (*Wendeborn*). | Salvin-Godman Coll. |

## 7. Rhamphastos inca.

Ramphastos inca, *Gould, P. Z. S.* 1846, p. 68; *id. Mon. Ramph.* ed. 2, pl. 7; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 105; *Scl. et Salv. Nomencl.* p. 108; *iid. P. Z. S.* 1873, p. 297 (E. Peru), et 1879, p. 633 (Bolivia); *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 146.

Above black; upper tail-coverts orange: beneath, throat and neck white, with a slight yellowish tinge on the neck; belly black; crissum scarlet: bill black, with a small red blotch, broad basal band and culmen pale yellowish: whole length 22 inches, wing 9, tail 6·5, bill from gape 6·4. *Female* similar.

*Hab.* Bolivia and Eastern Peru.

Generally similar to *R. erythrorhynchus*, but with the bill mostly black and the upper tail-coverts orange.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Eastern Peru. | Gould Coll. |
| *c.* Ad. sk. | Bolivia. | Gould Coll. |
| *d.* Neck-feathers. | Bolivia (*Bridges*). | Gould Coll. |

### 8. Rhamphastos cuvieri.

Ramphastos cuvieri, *Wagl. Syst. Av.* sp. 5; *Less. Tr. d'Orn.* p. 171; *Gould, P. Z. S.* 1834, p. 73; *id. Monogr. Ramph.* ed. 1, pl. 2; *id.* ed. 2, pl. 8; *Sturm, Monogr. Ramph.* pt. i. pl. 2; *Pelz. Orn. Bras.* p. 233; *Scl. P. Z. S.* 1855, p. 161 (Bogota), et 1857, p. 266 (Upper Amazons); *Scl. et Salv. P. Z. S.* 1866, p. 195 (Ucayali), 1869, p. 598, et 1873, p. 297 (Peru); *iid. Nomencl.* p. 108; *Cassin, Pr. Ac. Sc. Philad.* 1867, p. 105; *Tacz. P. Z. S.* 1874, p. 548 (C. Peru); *id. Orn. Pér.* iii. p. 147; *Berl. J. f. O.* 1889, p. 310.

Le grand Toucan à gorge orange, *Levaill. Ois. de Par.* ii. p. 15, pl. 5 (?).

Ramphastos forsterorum, *Wagl. Syst. Av.* sp. 8.

Above black; upper tail-coverts orange, sometimes tinged with scarlet: beneath, throat and neck white, lower neck often tinged with lemon-yellow; pectoral band scarlet; belly black; crissum scarlet; bill black, culminal line and basal band yellowish: whole length 22 inches, wing 9·5, tail 6·3, bill from gape 7·8. *Female* similar.

*Hab.* Colombia, Ecuador, and Upper Amazonia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *b, c.* Ad. sk. | Bogota. | Gould Coll. |
| *d–f.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *g.* ♂ ad. sk. | Chamicuros, E. Peru (*Hauxwell*). | Gould Coll. |
| *h.* Ad. sk. | R. Ucayali. | E. Bartlett [C.]. |
| *i.* Ad. sk. | R. Ucayali (*Bartlett*). | Sclater Coll. |
| *k.* Ad. sk. | Amazons. | Gould Coll. |
| *l.* Ad. st. | Rio Negro. | Gould Coll. |
| *m.* Jr. sk. | Rio Negro. | Gould Coll. |
| *n.* Ad. st. | Lower Amazons. | Purchased. |

### 9. Rhamphastos culminatus.

Ramphastos culminatus, *Gould, P. Z. S.* 1833, p. 70, et 1834, p. 73; *id. Mon. Ramph.* ed. 1, pl. 1, ed. 2, pl. 11; *Sturm, Mon. Ramph.* pt. 1, pl. 1; *Pelz. Orn. Bras.* p. 234; *Bp. Consp.* i. p. 92; *Scl. P. Z. S.* 1858, pp. 75, 460 (Ecuador); *Scl. et Salv. P. Z. S.* 1866, p. 195 (Ucayali), 1873, p. 297 (E. Peru), et 1879, p. 633 (Bolivia); *iid. Nomencl.* p. 108; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 105; *Tacz. Orn. Pér.* iii. p. 146; *Berl. J. f. O.* 1889, p. 310.

Similar to *R. cuvieri*, but generally smaller, and bill much smaller: whole length 18·5 inches, wing 8, tail 6, bill from gape 4·3.

*Hab.* Eastern Peru, Bolivia, Ecuador, and Colombia.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Chayavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *b.* Ad. sk. | Upper Amazons (*Hauxwell*). | Gould Coll. |
| *c–e.* Ad. sk. | Upper Amazons (*Bartlett*). | Gould Coll. |
| *f.* Ad. sk. | Upper Amazons. | Sclater Coll. |
| *g.* Ad. sk. | Upper Amazons. | Purchased. |
| *h.* Ad. sk. | Cosnipata, S. Peru (*Whitely*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *i.* Ad. sk. | Tilotilo, Yungas, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *k.* Ad. sk. | Guanai, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | San José, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *m.* Ad. sk. | Bogota (?). | Gould Coll. |
| *n.* Ad. st. | Bogota. | Gould Coll. |

### 10. Rhamphastos citreolæmus.

Ramphastos citreolæmus, *Gould, P. Z. S.* 1843, p. 147 (Bogota); *id. Mon. Ramph.* ed. 2, pl. 9; *Scl. P. Z. S.* 1855, p. 161 (Bogota); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 106; *Wyatt, Ibis*, 1871, p. 379 (Colombia); *Scl. et Salv. P. Z. S.* 1879, p. 537 (Antioquia); *Berl. J. f. O.* 1884, p. 319 (Bucaramanga).

Above black; upper tail-coverts lemon-yellow: beneath, throat and neck pale lemon-yellow; belly black; crissum scarlet; bill black, basal band and culmen greenish yellow: whole length 20 inches, wing 8, tail 6·5, bill from gape 5. *Female* similar.

*Hab.* Colombia.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Remedios, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Medellin, Antioquia (*Salmon*). | Gould Coll. |
| *d.* ♂ ad. sk. | Canta, Magdalena Valley, U. S. C. (*Wyatt*). | Salvin-Godman Coll. |
| *e.* ♂ ad. sk. | Canta, Magdalena Valley, U. S. C. (*Wyatt*). | Sclater Coll. |
| *f, g.* Ad. sk. | Bogota. | Gould Coll. |

### 11. Rhamphastos osculans.

Ramphastos osculans, *Gould, P. Z. S.* 1835, p. 156; *id. Mon. Ramph.* ed. 1, pl. 5, ed. 2, pl. 10; *Bp. Consp.* i. p. 92; *Pelz. Orn. Bras.* p. 234; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 106; *Scl. et Salv. Nomencl.* p. 108; *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).

Above black; upper tail-coverts orange: beneath, throat yellow, pectoral band scarlet, belly black, crissum scarlet; bill black, basal band and culmen yellow: whole length 17·5 inches, wing 7·5, tail 6, bill from gape 4. *Female* similar.

*Hab.* Guiana and Rio Negro.

The deep yellow neck and orange upper tail-feathers sufficiently distinguish this species.

| | | |
|---|---|---|
| *a.* Ad. sk. | Oyapok, Cayenne. | Sclater Coll. |
| *b.* Ad. sk. | British Guiana. | Gould Coll. |
| *c, d.* Jr. sk. | Rio Negro. | Gould Coll. |

### 12. Rhamphastos ariel.

Ramphastos ariel, *Vig. Zool. Journ.* ii. p. 466; *Owen, P. Z. S.* 1832, p. 42; *Gould, P. Z. S.* 1834, p. 74; *id. Mon. Ramph.* ed. 1, pl. 10, et ed. 2, pl. 12; *Scl. Cat. A. B.* p. 325; *Pelz. Orn. Bras.* p. 234;

*Cassin, Pr. Ac. Sc. Phil.* 1867, p. 106; *Scl. et Salv. Nomencl.* p. 108; *Berl. J. f. O.* 1873, p. 277 (S. Brazil).

Ramphastos temminckii, *Wagl. Syst. Av.* sp. 10; *Max. Beitr.* iv. p. 272; *Burm. Syst. Ueb.* ii. p. 205; *Sturm, Mon. Ramph.* pt. iii. pl. 4; *Cab. J. f. O.* 1874, p. 228 (S. Brazil).

Le grand Toucan à ventre rouge, *Levaill. Ois. de Par.* ii. p. 17, pl. 6 (?).

Ramphastos erythrosoma, *Wagl. Syst. Av.* sp. 9.

Above black; upper tail-coverts scarlet: beneath, whole throat and neck orange; broad pectoral band scarlet; belly black; crissum scarlet; bill black, with a yellow basal band: whole length 18 inches, wing 7·5, tail 6·5, bill from gape 4·5. *Female* similar.

*Hab.* Eastern Brazil.

| | | |
|---|---|---|
| *a.* Ad. st. | S.E. Brazil. | Purchased. |
| *b, c.* ♂ ♀ ad. sk.; *d.* Ad. sk. | Para, Brazil. | Gould Coll. |
| *e.* Ad. sk. | Pernambuco, Brazil (*Craven*). | Sclater Coll. |
| *f.* Jr. sk. | Pernambuco, Brazil (*Forbes*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Bahia, Brazil. | Sudbury Mus. [E.]. |
| *h.* Ad. sk. | Santa Fé, Minas, Brazil (*Rogers*). | Salvin-Godman Coll. |
| *i.* ♀ ad. sk. | Saõ Paulo, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *k.* Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *l.* Ad. sk. | S.E. Brazil. | Jardine Coll. |
| *m.* Ad. sk. | S.E. Brazil. | Gould Coll. |
| *n.* Ad. sk. | S.E. Brazil. | Purchased. |

## 13. Rhamphastos vitellinus.

Ramphastos vitellinus, *Licht. Doubl.* p. 7; *Sw. Zool. Ill.* ser. 1, i. pl. 56; *Wagl. Syst. Av.* sp. 12; *Gould, P. Z. S.* 1834, p. 74; *id. Mon. Ramph.* ed. 1, pl. 9, et ed. 2, pl. 13; *Sturm, Mon. Ramph.* pt. iii. pl. 3; *Bp. Consp.* i. p. 93; *Less. Tr. d'Orn.* p. 173; *Cab. in Schomb. Guian.* iii. p. 722; *Taylor, Ibis*, 1864, p. 93 (Trinidad); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 107; *Pelz. Orn. Bras.* p. 235; *Finsch, P. Z. S.* 1870, p. 584 (Trinidad); *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).

Le Pignan-Coin, *Levaill. Ois. de Par.* ii. p. 19, pl. 7.

Above black: upper tail-coverts scarlet: beneath, throat and sides of neck white; fore neck yellow; broad pectoral band scarlet; belly black; crissum scarlet; bill black, with a pale basal band: whole length 18 inches, wing 7·5, tail 6·5, bill from gape 4·6. *Female* similar.

*Hab.* Trinidad, Venezuela, Guiana, and Lower Amazonia.

At once distinguishable from *R. ariel* by the white sides of the neck. In *R. ariel* the whole throat and fore neck are of a uniform orange.

| | | |
|---|---|---|
| *a.* Ad. sk. | Trinidad. | Sclater Coll. |
| *b.* Ad. st. | Cayenne. | Purchased. |
| *c, d.* ♂ ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *e–g.* Ad. sk. | British Guiana. | Gould Coll. |
| *h.* Ad. sk. | Demerara. | Purchased. |
| *i.* Ad. st. | Demerara. | Purchased. |
| *k.* ♀ ad. sk. | Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Lower Amazons. | Gould Coll. |

### 14. Rhamphastos dicolorus.

Ramphastos dicolorus, *Linn. S. N.* i. p. 152; *Gm. S. N.* i. p. 356; *Lath. Ind. Orn.* i. p. 135; *Wagl. Syst. Av.* sp. 14; *Sw. Zool. Ill.* ser. 1, ii. pl. 108; *Jard. et Selb. Ill. Orn.* i. pl. 29; *Less. Tr. d'Orn.* p. 173; *Gould, P. Z. S.* 1834, p. 74; *id. Mon. Ramph.* ed. 1, pl. 11, et ed. 2, pl. 14; *Sturm, Mon. Ramph.* pt. iii. pl. 5; *Bp. Consp.* i. p. 93; *Cab. in Schomb. Guian.* iii. p. 722; *Burm. Syst. Ueb.* ii. p. 204; *Fraser, P. Z. S.* 1856, p. 368; *Pelz. Orn. Bras.* p. 235; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 107; *Scl. Cat. A. B.* p. 325; *Hamilton, Ibis*, 1871, p. 308 (Brazil); *Scl. et Salv. Nomencl.* p. 108; *Berl. J. f. O.* 1873, p. 277 (S. Brazil), et 1887, p. 121 (Paraguay); *Cab. J. f. O.* 1874, p. 228 (S. Brazil); *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).
Ramphastos chlororhynchus, *Temm. Man. d'Orn.* i. p. lxxvi.
Ramphastos pectoralis, *Shaw, Gen. Zool.* viii. p. 365.
Tucai, *Azara, Apunt.* i. p. 239 (Paraguay).
Ramphastos tucai, *Licht. Doubl.* p. 7; *Wagl. Syst. Av.* sp. 13; *Less. Tr. d'Orn.* p. 173.
Le petit Toucan à ventre rouge, *Levaill. Ois. de Par.* ii. p. 22, pl. 8.

Above black: upper tail-coverts scarlet: beneath, throat pale lemon-yellow, with a large orange patch in the middle; upper half of belly scarlet, lower half black; crissum scarlet; bill greenish, with a black basal band: whole length 20 inches, wing 8, tail 7, bill from gape 4·2. *Female* similar.

*Hab.* S.E. Brazil and Paraguay.

| | | |
|---|---|---|
| *a.* Ad. st. | S.E. Brazil. | Mrs. Graham [P.]. |
| *b.* Ad. st. | S.E. Brazil. | Purchased. |
| *c.* Jr. st. | S.E. Brazil. | Zool. Soc. Coll. |
| *d.* ♂ ad. sk. | São Paulo, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *e.* ♀ ad. sk. | Rio Claro, Goyaz, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Novo Fribourgo, Rio, Brazil (*Youds*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *h–l.* Ad.; *m.* Jr. sk. | S.E. Brazil. | Gould Coll. |

## 2. ANDIGENA.

| | Type. |
|---|---|
| Andigena, *Gould, P. Z. S.* 1850, p. 93..... | A. hypoglaucus. |
| Ramphomelus, *Bp. Consp. Vol. Zyg.* p. 4 (1854) .... | A. nigrirostris. |

This little group, which embraces five or six species, mostly inhabitants of the high forests of the Andes, has usually been placed lower down in the series, but seems to me to come in most naturally next to *Rhamphastos*.

The typical *Andigenæ* are all of a generally bluish-grey colour, *A. bailloni*, if it really belongs to this genus, presenting a remarkable deviation in this respect, as it does in its range. The sexes are alike.

*Key to the Species.*

A. General plumage bluish grey.
  *a*. Throat bluish grey.
    *a'*. Flanks uniform :
      rump yellow; tail-end chestnut .... 1. *hypoglaucus*, p. 134.
      rump green; tail uniform ..... 2. *cucullatus*, p. 134.
    *b'*. Flanks yellow; tail-end chestnut .... 3. *laminirostris*, p. 135.
  *b*. Throat white :
      bill uniform black ..... 4. *nigrirostris*, p. 135.
      bill with red blotch ..... 5. *spilorhynchus*, p. 136.
B. General plumage yellow ..... 6. *bailloni*, p. 136.

## 1. Andigena hypoglaucus.

Pteroglossus hypoglaucus, *Gould, P. Z. S.* 1833, p. 70, et 1834, p. 77; *id. Mon. Ramph.* ed. i. pl. 18; *Sturm, Mon. Ramph.* pt. ii. pl. 4; *Bp. Consp.* i. p. 94.

Andigena hypoglauca, *Gould, P. Z. S.* 1850, p. 93; *id. Mon. Ramph.* ed. 2, pl. 38; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 122; *Scl. et Salv. Nomencl.* p. 109; *iid. P. Z. S.* 1873, p. 186 (Peru); *Tacz. et Berl. P. Z. S.* 1885, p. 108 (Ecuador); *Tacz. Orn. Pér.* iii. p. 157.

Above dark green with a brownish tinge; cap black, broad nuchal band bluish grey: rump yellow; tail-end chestnut: beneath bluish grey, thighs dark chestnut; crissum scarlet; bill yellow, broad transverse band near the base and end of lower mandible black, culmen and apical half of upper mandible red: whole length 17·5 inches, wing 7, tail 7, bill from gape 4. *Female* similar.

*Hab.* Colombia, Ecuador, and Western Peru.

| | | |
|---|---|---|
| *a*. Ad. st. | Bogota. | Purchased. |
| *b*, *c*. Ad. sk. | San Lucas, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | San Lucas, Ecuador (*Buckley*). | Sclater Coll. |
| *e*. Ad. sk. | Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *f*–*h*. Ad.; *i*, *k*. Jr. sk. | Ecuador. | Gould Coll. |
| *l*. ♂ ad. sk. | Cachupata, S.W. Peru (*Whitely*). | Sclater Coll. |

## 2. Andigena cucullatus.

Pteroglossus cucullatus, *Gould, P. Z. S.* 1846, p. 69; *Bp. Consp.* i. p. 95.

Andigena cucullatus, *Gould, P. Z. S.* 1850, p. 93; *id. Mon. Ramph.* ed. 2, pl. 39; *Scl. et Salv. Nomencl.* p. 109; *iid. P. Z. S.* 1879, p. 634 (Bolivia); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 122; *Tacz. P. Z. S.* 1874, p. 548 (C. Peru), et 1882, p. 45 (N.E. Peru).

Above dark green with a brownish tinge on the back; cap black; nuchal band bluish grey: beneath bluish grey, darker on the throat; thighs brown; crissum scarlet: bill greenish yellow, with the tip and a spot at the base of the lower mandible black: whole length 15·5 inches, wing 6·5, tail 6·5, bill from gape 3.

*Hab.* Bolivia and Peru.

This species is easily distinguished from *A. hypoglaucus* by its differently coloured bill, green rump and uniform tail, without the chestnut tail-end.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Tilotilo, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Bolivia. | T. Bridges [C.]. |

### 3. Andigena laminirostris.

Andigena laminirostris, *Gould, P. Z. S.* 1850, p. 93; *id. Mon. Ramph.* ed. 2, pl. 37; *Sclater, P. Z. S.* 1859, p. 146, et 1860, p. 95 (Ecuador); *id. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 122; *Berl. et Taez. P. Z. S.* 1884, p. 308, et 1885, p. 121 (W. Ecuador); *Taez. Orn. Pér.* iii. p. 158.

Above clear olive-brown; head and nape black; rump lemon-yellow; tail dark grey, with broad chestnut tail-end to the central feathers: beneath blue, large flank-spot yellow: thighs brownish chestnut; crissum scarlet; bill black, more or less red at the base; raised plate at the base of the upper mandible white: whole length 17 inches, wing 6·5, tail 6·5, bill from gape 4. *Female* similar.

*Hab.* Ecuador and Western Peru.

The raised plate near the base of the upper mandible renders this species unique among the *Rhamphastidæ*, and, indeed, among birds. The orange-yellow flank-spot likewise separates it from the two preceding species.

| | | |
|---|---|---|
| *a.* ♂ ad. st. | Ecuador. | Gould Coll. |
| *b.* Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Sclater Coll. |
| *c, d.* Ad. sk. | Jima, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Quito, Ecuador. | Salvin-Godman Coll. |
| *f.* Ad sk. | Ecuador. | Salvin-Godman Coll. |
| *g-i.* Ad.; *k.* Jr. sk. | Ecuador. | Gould Coll. |

### 4. Andigena nigrirostris.

Pteroglossus nigrirostris, *Waterh. P. Z. S.* 1839, p. 111; *Bp. Consp.* i. p. 94.

Pteroglossus melanorhynchus, *Sturm, Monogr. Ramph.* pt. i. pl. 3.

Andigena nigrirostris, *Gould, P. Z. S.* 1850, p. 93; *id. Monogr. Ramph.* ed. 2, pl. 40; *Scl. P. Z. S.* 1855, p. 161 (Bogota); *id. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Philad.* 1867, p. 123; *Wyatt, Ibis*, 1871, p. 379 (Colombia); *Berl. J. f. O.* 1884, p. 319 (Bucaramanga).

Above clear brownish olive; cap and nape black; rump pale yellow: tail dark grey, with brown chestnut tail-end to central

feathers: beneath pale sky-blue, throat white; thighs chestnut: crissum scarlet; bill black: whole length 17 inches, wing 6·8, tail 7, bill from gape 4. *Female* similar.

*Hab.* Colombia.

| | | |
|---|---|---|
| *a*, *b*. Ad. st. | Bogota. | Purchased. |
| *c*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *d*–*g*. Ad. sk. | Bogota. | Gould Coll. |
| *h*. Ad. sk. | Bogota. | Sclater Coll. |
| *i*. Ad. sk. | Rio Napo. | Sclater Coll. |
| *k*. Ad. sk. | Peru (?). | Gould Coll. |

### 5. Andigena spilorhynchus.

Andigena nigrirostris, *Sclater, P. Z. S.* 1854, p. 115, et 1858, p. 75.
Andigena spilorhynchus, *Gould, P. Z. S.* 1858, p. 149; *Sclater, P. Z. S.* 1858, p. 75 (note); *id. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 123; *Scl. et Salv. Nomencl.* p. 109; *iid. P. Z. S.* 1879, p. 537 (Antioquia).

Similar to *A. nigrirostris*, but with a reddish blotch at the base of the bill, extending more or less along the upper mandible.

*Hab.* Western Colombia and Ecuador.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Concordia, Antioquia (*Salmon*). | Sclater Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Concordia, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *d*, *e*. Ad. sk. | Concordia, Antioquia (*Salmon*). | Gould Coll. |
| *f*–*h*. Ad. sk. | Antioquia (*Salmon*). | Gould Coll. |
| *i*, *k*. Ad. sk. | Rosario, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *l*, *m*. Ad. sk. | Ecuador. | Gould Coll. |
| *n*. Ad. sk. | Forests of Baiza, Ecuador. | Gould Coll. |

### 6. Andigena bailloni.

L'Aracari Baillon, *Levaill. Ois. de Par.* ii. p. 44, t. 18.
Ramphastos bailloni, *Vieill. Nouv. Dict.* xxxiv. p. 283; *id. Enc. Méth.* p. 1431.
Pteroglossus bailloni, *Wagl. Syst. Av.* sp. 7; *Gould, P. Z. S.* 1834, p. 77; *id. Mon. Ramph.* ed. 1, pl. 20, et ed. 2, pl. 41; *Sturm, Mon. Ramph.* pt. iv. pl. 4; *Bp. Consp.* i. p. 94; *Less. Tr. d'Orn.* p. 176; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 114; *Pelz. Orn. Bras.* p. 238; *Berl. J. f. O.* 1873, p. 279 (S. Brazil); *Cab. J. f. O.* 1874, p. 228 (S. Brazil).
Pteroglossus croceus, *Jard. et Selb. Ill. Orn.* i. pl. 6.
Andigena bailloni, *Gould, P. Z. S.* 1850, p. 93; *Scl. Cat. A. B.* p. 328.

Above olive-green, more yellowish on front and superciliaries; rump scarlet: beneath saffron-yellow, flanks and crissum greenish; bill greenish, dark at the base, where there is a reddish blotch: whole length 15 inches, wing 5·3, tail 6·5, bill from gape 3·2. *Female* similar.

*Hab.* S.E. Brazil.

As regards its colour this Toucan stands quite alone. Gould placed it in the present genus, where I think it may remain, unless another generic name is formed for it.

| | | |
|---|---|---|
| *a*. Ad. st. | S.E. Brazil. | Lord Stuart de Rothesay [P.]. |
| *b*. Ad. sk. | Novo Fribourgo, Rio, Brazil (*Youds*). | Salvin-Godman Coll. |
| *c*. ♂ ad. sk. | Pelotas, Rio Grande do Sul, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *e–g*. Ad. sk. | S.E. Brazil. | Gould Coll. |
| *h*. Ad. sk. | S.E. Brazil. | Salvin-Godman Coll. |
| *i*. Skeleton. | | Eyton Coll. |

## 3. PTEROGLOSSUS.

| | Type. |
|---|---|
| Pteroglossus, *Ill. Prodr. Syst. Mamm. et Av.* p. 202 (1811) | P. aracari. |
| Aracari, *Less. Man. d'Orn.* ii. p. 131 (1828) | P. azaræ. |
| Pyrosterna, *Bp. Consp. Vol. Zyg.* p. 4 (1854) | P. bitorquatus. |
| Beauharnasius, *Bp. ibid.* | P. beauharnaisi. |
| Grammarhynchus, *Gould, Mon. Ramph.* ed. 2, introd. p. 26 (1854) | P. inscriptus. |

*Pteroglossus* is the most brilliant and diversified genus of the family, with a plumage of green, scarlet, and yellow, often arranged in patches of marked contrast. Refusing to acknowledge several subdivisions of recent authors to be of generic value, I place 18 species within the limits of this genus, and include among them the magnificent Curl-crested Aracari, one of the finest birds of the whole Neotropical Ornis.

*Pteroglossus* ranges as far north as *Rhamphastos*, but not perhaps quite so far south, as no species has yet been detected in Argentina, though *P. wiedi* extends into the Brazilian province of Rio Grande do Sul. The headquarters of *Pteroglossus* is certainly the great forest of Amazonia, where numerous species are met with.

In *Pteroglossus* the sexes are mostly alike or nearly so, but in some species the males are considerably more intense in colour, and thus distinguishable by external characters.

### *Key to the Species.*

A. Head-feathers not scaly.
  *a*. Breast banded; sexes alike.
    *a'*. Bill larger (*Pteroglossus*).
      *a''*. Without a black pectoral spot.
        *a'''*. Nape black.
          *a*⁴. With one band beneath.
            *a*⁵. Stripe on culmen broad .. 1. *aracari*, p. 138.
            *b*⁵. Stripe on culmen narrow:
              smaller ..... 2. *wiedi*, p. 139.
              larger ..... 3. *formosus*, p. 139.

| | |
|---|---|
| *b*⁴. With two bands beneath | 4. *pluricinctus*, p. 139. |
| *b'''*. Nape chestnut | 5. *castanotis*, p. 140. |
| *b''*. With a black pectoral spot. | |
| *c'''*. With a chestnut nuchal collar: | |
| belly-band mostly black | 6. *torquatus*, p. 141. |
| belly-band scarlet | 7. *frantzii*, p. 142. |
| *d'''*. Without a chestnut nuchal collar: | |
| base of lower mandible white. | 8. *erythropygius*, p. 143. |
| base of lower mandible black. | 9. *sanguineus*, p. 143. |
| *b'*. Bill smaller (*Pyrosterna*). | |
| *c''*. Neck-band yellow: | |
| base of lower mandible white | 10. *bitorquatus*, p. 144. |
| base of lower mandible black | 11. *sturmi*, p. 144. |
| *d''*. Neck-band scarlet: | |
| upper mandible uniform | 12. *flavirostris*, p. 144. |
| upper mandible with a brown stripe | 13. *azaræ*, p. 145. |
| *b*. Breast not branded; sexes different (*Grammarhynchus*). | |
| *c'*. Tomiæ with black transverse stripes: | |
| under mandible black | 14. *humboldti*, p. 146. |
| under mandible mostly white | 15. *inscriptus*, p. 146. |
| *d'*. Tomiæ without black transverse stripes: | |
| culmen uniform | 16. *viridis*, p. 147. |
| culmen with a black stripe | 17. *didymus*, p. 147. |
| B. Head-feathers scaly, curled | 18. *beauharnaisi*, p. 148. |

## 1. Pteroglossus aracari.

Ramphastos araçari, *Linn. S. N.* i. p. 151.

Pteroglossus araçari, *Ill. Prod. Syst. Mamm. et Av.* p. 202; *Wagl. Syst. Av.* sp. 2; *Gould, P. Z. S.* 1834, p. 75; *id. Mon. Ramph.* ed. 1, pl. 12, et ed. 2, pl. 15; *Bp. Consp.* i. p. 93; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 108; *Scl. Cat. A. B.* p. 325; *Scl. et Salv. P. Z. S.* 1867, pp. 586, 594 (L. Amazons); *iid. Nomencl.* p. 108; *Finsch, P. Z. S.* 1870, p. 584 (Trinidad); *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).

Toucan verd du Brésil, *Daub. Pl. Enl.* 166.

Ramphastos atricollis, *Müll. S. N. Suppl.* p. 83.

L'Aracari à ceinture rouge, *Levaill. Ois. de Par.* ii. p. 29, pl. 10.

Above dark green, head and nape black, ear-coverts more or less tinged with chestnut; rump scarlet: beneath pale yellow; throat and neck black; ventral band scarlet; flanks and crissum reddish green; upper mandible white, with a broad culminal stripe; under mandible black: whole length 18 inches, wing 6, tail 6·5, bill from gape 4·4. *Female* similar.

*Hab.* Guiana, Cayenne, Surinam, and Lower Amazonia.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Bartica Grove, Br. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *b*. Ad. sk. | Demerara. | Gould Coll. |
| *c*, *d*. Ad. sk. | Cayenne. | Gould Coll. |

| | | |
|---|---|---|
| *e.* Ad. sk. | Cayenne. | Sclater Coll. |
| *f.* Ad. st. | Cayenne. | Purchased. |
| *g.* Ad. sk. | Maroni R., Surinam (*Kappler*). | Salvin-Godman Coll. |

### 2. Pteroglossus wiedi.

Pteroglossus wiedii, *Sturm, Mon. Ramph.* pt. iv.; *Gould, Mon. Ramph.* ed. 2, pl. 16; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 108; *Scl. Cat. A. B.* p. 326; *Pelz. Orn. Bras.* p. 235; *Scl. et Salv. P. Z. S.* 1867, pp. 594, 595, (L. Amazons); *iid. Nomencl.* p. 108; *Hamilton, Ibis,* 1871, p. 308 (Brazil); *Berl. J. f. O.* 1873, p. 277 (S. Brazil); *Cab. J. f. O.* 1874, p. 228 (S. Brazil).

Pteroglossus araçari, *Max. Beitr.* iv. p. 283; *Burm. Syst. Ueb.* ii. p. 207; *Euler, J. f. O.* 1867, pp. 190, 195.

Similar to *P. aracari*, but culminal stripe narrow, and thighs more greenish.

*Hab.* Lower Amazonia and S.E. Brazil.

| | | |
|---|---|---|
| *a.* Ad. sk. | Capim R., Lower Amazonia (*Wallace*). | Salvin-Godman Coll. |
| *b.* Ad. sk. | Para. | Gould Coll. |
| *c.* Ad. sk. | Bahia. | Gould Coll. |
| *d.* Ad. sk. | Bahia. | Sclater Coll. |
| *e.* Ad. sk. | Santa Fé, Minas, Brazil (*Rogers*). | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Pelotas, Rio Grande do Sul, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *g.* Jr. sk. | Brazil. | Purchased. |
| *h.* Ad. sk. | Brazil. | Gould Coll. |

### 3. Pteroglossus formosus.

Pteroglossus formosus, *Cab. J. f. O.* 1862, p. 332 (Venezuela); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 108.

Larger than the two preceding; culminal stripe narrow, and thighs green, as in *P. wiedi*.

*Hab.* Venezuela.

### 4. Pteroglossus pluricinctus.

Pteroglossus pluricinctus, *Gould, P. Z. S.* 1835, p. 157; *id. Mon. Ramph.* ed. 1, pl. 15, et ed. 2, pl. 17; *Sturm, Mon. Ramph.* pt. ii. pl. 3; *Bp. Consp.* i. p. 94; *Sclater, P. Z. S.* 1858, p. 75 (Ecuador); *id. Cat. A. B.* p. 326; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 109; *Pelz. Orn. Bras.* p. 236; *Scl. et Salv. P. Z. S.* 1867, p. 753, et 1873, p. 297 (E. Peru); *iid. Nomencl.* p. 109; *Salv. Ibis,* 1886, p. 65 (Brit. Guiana); *Tacz. Orn. Pér.* iii. p. 151; *Berl. J. f. O.* 1889, p. 310 (E. Peru).

Pteroglossus pœcilosternus, *Gould, P. Z. S.* 1843, p. 147 (Bogota); *id. Mon. Ramph.* ed. 2, pl. 18; *Bp. Consp.* i. p. 94; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 109; *Scl. Cat. A. B.* p. 326; *Scl. et Salv. Nomencl.* p. 109.

L'Aracari à double ceinture, *Levaill. Ois. de Par.* ii. p. 32, pl. 11.

Above dark green, head and nape blackish, ear-coverts more or less tinged with chestnut; rump scarlet: beneath yellow; throat and neck and well-defined pectoral band black; ventral band black, more or less mixed with scarlet; thighs brown, mixed with green; upper mandible white, with a narrow basal band and broad culminal stripe black; lower mandible black: whole length 18 inches, wing 6, tail 6·5, bill from gape 4·5. *Female* similar.

*Hab.* Colombia and Amazonia.

*P. pluricinctus* was established on Natterer's specimens from the Rio Negro, and *P. pœcilosternus* on Bogota skins. I cannot separate examples from these localities, but Upper Amazonian specimens have the ventral band much more mixed with scarlet, as in Gould's figure of *P. pœcilosternus*. However, there is much variation on this point, and I think it much better not to recognize more than one species.

| | | |
|---|---|---|
| *a–d.* Ad. sk. | Bogota. | Salvin-Godman, Sclater, and Gould Colls. |
| *e,f.* ♂ ♀ ad. sk. | Rio Negro. | Gould Coll. |
| *g.* Ad. sk. | Rio Napo. | Sclater Coll. |
| *h,i.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *k.* ♂ ad. sk. | Chayavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *l.* ♂ ad. sk. | Loretoyacu, E. Peru (*Hauxwell*). | Sclater Coll. |
| *m–o.* Ad. sk. | Upper Amazons. | Gould Coll. |
| *p.* Bill. | Upper Amazons. | Gould Coll. |

### 5. Pteroglossus castanotis.

Pteroglossus castanotis, *Gould, P. Z. S.* 1833, p. 119, et 1834, p. 75; *id. Mon. Ramph.* ed. 1. pl. 13, et ed. 2. pl. 19; *Sturm, Mon. Ramph.* pt. ii. pl. 1: *Ep. Consp.* i. p. 93; *Sel. P. Z. S.* 1854, p. 115 (Ecuador), et 1855, p. 161 (Bogota); *id. Cat. A. B.* p. 326; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 111; *Pelz. Orn. Bras.* p. 236; *Sel. et Salv. P. Z. S.* 1866, p. 195 (Ucayali), 1873, p. 297 (E. Peru), et 1879, p. 633 (Bolivia); *iid. Nomencl.* p. 109; *Tacz. Orn. Pér.* iii. p. 151; *Berl. J. f. O.* 1889, p. 311.

Above dark green; head black, sometimes with a chestnut coronal spot; nape and sides of head more or less brownish chestnut; rump scarlet: beneath pale yellow; throat and fore neck black, throat sometimes more or less chestnut; broad ventral band scarlet; thighs brown; upper mandible straw-colour, with a broad culminal stripe and elongated band on each side along the base black; lower mandible black: whole length 18 inches, wing 6, tail 6·5, bill from gape 4·2. *Female* similar.

*Hab.* Colombia, Ecuador, Amazonia, Bolivia, and interior of Brazil.

This is a wide-ranging species and is subject to much variation. The southern bird has *usually* a brownish coronal patch and a lighter

chestnut on the neck. It may be termed *australis*, after Cassin, by those who use trinomials.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *c, d.* Ad. sk. | Andoa, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Barra do Rio Negro (*Wallace*). | Sclater Coll. |
| *f.* Ad. sk. | Rio Negro. | Purchased. |
| *g.* Ad. st. | Rio Negro. | Purchased. |
| *h.* Ad. sk. | Lower Amazonia. | Salvin-Godman Coll. |
| *i–l.* Ad. sk. | Lower Amazonia. | Gould Coll. |
| *m, n.* Ad. sk. | Upper Amazons. | Gould Coll. |
| *o.* Ad. sk. | Upper Amazons (*Wallace*). | Salvin-Godman Coll. |
| *p, q.* ♀ ad. sk. | Samiria, E. Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *r.* ♀ ad. sk. | Sarayacu, Peruvian Amazons (*Bartlett*). | Salvin-Godman Coll. |
| *s.* Ad. sk. | Tilotilo, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *t–b'.* ♂ ad.; *c'–g'.* ♀ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |
| *h', i'.* ♂ ♀ ad. sk. | Abrilango, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |

### 6. Pteroglossus torquatus.

Ramphastos torquatus, *Gm. S. N.* i. p. 354; *Lath. Ind. Orn.* i. p. 137 (?).

Pteroglossus torquatus, *Wagl. Isis*, 1829, p. 508; *Gould, Mon. Ramph.* ed. 2, pl. 20; *Sturm, Mon. Ramph.* pt. ii. pl. 2; *Scl. P. Z. S.* 1857, p. 205 (Mexico), 1858, p. 359 (Honduras), et 1859, p. 59 (Honduras), et p. 388 (Mexico); *id. Cat. A. B.* p. 326; *Scl. et Salv. Ibis*, 1859, p. 135; *id. P. Z. S.* 1864, p. 366 (Panama), 1870, p. 837 (Honduras), et 1879, p. 537 (Antioquia); *id. Nomencl.* p. 109; *Taylor, Ibis*, 1860, p. 119 (Honduras); *Lawr. Ann. Lyc. N. Y.* vii. p. 299 (Colombia), et ix. p. 129 (Costa Rica); *Cab. J. f. O.* 1862, p. 331 (Costa Rica); *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 110; *Salv. Ibis*, 1872, p. 323 (Nicaragua); *Bouc. P. Z. S.* 1878, p. 46 (Costa Rica), et 1883, p. 455 (Yucatan); *Salv. et Godm. Ibis*, 1880, p. 175 (Colombia); *Nutt. P. U. S. N. M.* v. p. 401 (Costa Rica), et vi. pp. 388, 407 (Nicaragua); *Ridgw. P. U. S. N. M.* ix. p. 163 (Mexico), et x. p. 591 (Honduras).

Pteroglossus ambiguus, *Less. Tr. d'Orn.* p. 178.

Pteroglossus regalis, *Licht. in Mus. Berol.*; *Gould, P. Z. S.* 1834, p. 75; *id. Mon. Ramph.* ed. 1, pl. 14; *Bp. Consp.* i. p. 94.

Pteroglossus nuchalis, *Cab. J. f. O.* 1862, p. 332 (Venezuela); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 110.

Above dark green; head black; narrow nuchal collar chestnut; rump scarlet: beneath pale yellow; throat and neck black, pectoral spot black, breast more or less stained with crimson; belly-band black, more or less mixed with crimson; thighs chestnut; bill black; narrow basal line all round white; greater part of upper mandible except the tip pale yellow: whole length 15 inches, wing 5·5, tail 6, bill from gape 4. *Female* similar.

*Hab.* Southern Mexico and Central America down to Panama; also Northern Colombia and Venezuela.

The pectoral spot is very faintly marked in some specimens of this Toucan, but large and distinct in others from the same locality.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | S. Lorenzo, Cordova, Mexico (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *b*. ♀ ad.; *c*. ♀ jr.; *d*. Ad. sk. | Playa Vicente, Vera Cruz, Mexico (*Trujillo*). | Salvin-Godman Coll. |
| *e*. ♂ jr. sk. | Sochiapa, Vera Cruz, Mexico (*Trujillo*). | Salvin-Godman Coll. |
| *f*, *g*. ♂ ad.; *h*, *i*. ♀ ad. sk. | Teapa, Tabasco, Mexico (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *k*–*m*. Jr. sk. | Orange Walk, Brit. Honduras (*Gaumer*). | Salvin-Godman Coll. |
| *n*. ♀ ad. sk. | Cayo, Brit. Honduras (*Blancaneaux*). | Salvin-Godman Coll. |
| *o*. ♂ ad. sk. | Tonala, S. Mexico (*Sumichrast*). | Salvin-Godman Coll. |
| *p*. ♀ ad. sk. | Izalam, N. Yucatan (*Gaumer*). | Salvin-Godman Coll. |
| *q*. Ad. sk. | Belize (*Blancaneaux*). | Salvin-Godman Coll. |
| *r*, *s*. Ad. sk. | Choctum, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *t*. Ad. sk. | Choctum, Vera Paz (*Salvin*). | Sclater Coll. |
| *u*. Ad. sk. | Coban, Vera Paz. | Gould Coll. |
| *v*, *w*. Ad. sk. | Savana Grande, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *x*–*z*. Ad. sk. | Retalhuleu, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *a'*, *b'*. Ad. sk. | Retalhuleu, Guatemala (*Salvin*). | Gould Coll. |
| *c'*. Ad. sk. | Retalhuleu, Guatemala (*Salvin*). | Tweeddale Coll. |
| *d'*. Ad. sk. | Guatemala. | Gould Coll. |
| *e'*. Ad. sk. | San Pedro, Honduras (*Whitely*). | Gould Coll. |
| *f'*. Ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *g'*. Ad. sk. | Nicaragua (*Delattre*). | Gould Coll. |
| *h'*, *i'*. Ad. sk. | Nicaragua (*Dyson*). | Purchased. |
| *k'*, *l'*. Ad. sk. | Bebedero, Costa Rica (*Arcé*). | Salvin-Godman Coll. |
| *m'*. Ad. sk. | Costa Rica (*Carmiol*). | Sclater Coll. |
| *n'*, *o'*. ♂ ♀ ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |
| *p'*. ♀ ad. sk. | Panama (*McLeannan*). | Sclater Coll. |
| *q'*. ♀ ad. sk. | Santa Marta (*Simons*). | Salvin-Godman Coll. |
| *r'*. ♂ ad. sk. | Sierra Nevada of Santa Marta (*Simons*). | Sclater Coll. |
| *s'*. Ad. sk. | Santa Marta. | Tweeddale Coll. |
| *t'*. ♂ ad. sk. | Remedios, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *u'*. Ad. sk. | Remedios, Antioquia, U. S. C. (*Salmon*). | Sclater Coll. |
| *v'*. ♂ ad. sk. | Puerto Cabello, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *w'*. Skeleton. | | Purchased. |

### 7. Pteroglossus frantzii.

Pteroglossus frantzii, *Cab. Sitz. nat. Ges. Freunde Berlin*, November 1861; *id. J. f. O.* 1862, p. 333 (Costa Rica); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 110; *Lawr. Ann. Lyc. N. Y.* ix. p. 129 (Costa Rica); *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Salv. P. Z. S.* 1870, p. 211 (Veragua); *Scl. et Salv. Nomencl.* p. 109; *Bouc. P. Z. S.* 1878, p. 47 (Costa Rica).

Above dark green; head black; nuchal collar chestnut; rump scarlet: beneath yellow; throat and neck black; pectoral spot black, breast more or less stained with crimson; broad and

well-defined belly-band crimson, with slight black punctures ; thighs chestnut ; bill with a white basal line all round ; upper mandible yellow, with a broad black blotch at the base of the culmen extending over the basal two thirds ; lower mandible black : whole length 16 inches, wing 6, tail 6. *Female* similar.

*Hab.* Costa Rica and Chiriqui.

Generally similar to *P. torquatus*, but at once distinguishable by the broad well-defined crimson ventral band and the yellow tip of the upper mandible.

| | | |
|---|---|---|
| *a.* Ad. sk. | San José, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *b.* Ad. sk. | Costa Rica. | Gould Coll. |
| *c.* ♂ ad. sk. | S. slope of Volcano of Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *d.* Ad. sk. | Veragua (*Arcé*). | Sclater Coll. |
| *e, f.* ♂ ♀ ad. ; *g.* ♀ ad. sk. | Bugaba, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *h.* Ad. sk. | Bugaba, Chiriqui (*Arcé*). | Gould Coll. |

### 8. Pteroglossus erythropygius.

Pteroglossus erythropygius, *Gould, P. Z. S.* 1843, p. 15 ; *id. Zool. Voy.* '*Sulphur*,' p. 45, pl. xxviii. ; *id. Mon. Ramph.* ed. 2, pl. 21 (lower fig.) ; *Scl. P. Z. S.* 1860, pp. 71, 286 (Ecuador) ; *Lawr. Ann. Lyc. N. Y.* viii. p. 178 (Chiriqui) ; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 109 ; *Salv. P. Z. S.* 1867, p. 157 (Veragua) ; *Scl. et Salv. Nomencl.* p. 109 ; *Berl. et Tacz. P. Z. S.* 1883, p. 573, et 1885, p. 123 (Ecuador).

Above dark green : head and nape black ; rump scarlet : beneath pale yellow ; throat and neck black : pectoral spot black, breast more or less stained with crimson ; ventral band black, slightly mixed with crimson ; thighs chestnut ; bill mostly yellow ; lateral line along the base of the upper mandible and tip of lower mandible black : whole length 16 inches, wing 6, tail 6·5, bill from gape 4. *Female* similar.

*Hab.* Western Ecuador.

The original specimen of this species, now unfortunately lost, is said to have been obtained at Realejo in Nicaragua, but all the specimens I have seen with authentically determined localities are from Ecuador. The next species is, I suspect, its more northern representative.

| | | |
|---|---|---|
| *a–c.* Ad. sk. | Santa Rita, Ecuador (*Villagomez*). | Salvin-Godman Coll. |
| *d.* Ad. sk. | Imtac, Ecuador (*Buckley*). | Sclater Coll. |
| *e.* Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Gould Coll. |
| *f–i.* Ad. ; *k.* Jr. sk. | Ecuador. | Gould Coll. |

### 9. Pteroglossus sanguineus.

Pteroglossus erythropygius, *Gould, Mon. Ramph.* ed. 2, pl. 21 (upper figure) ; *Cassin, Pr. Ac. Sc. Phil.* 1860, p. 136 (Rio Truando).

Pteroglossus sanguineus, *Gould, Mon. Ramph.* ed. 2, text to pl. 21 ; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 109.

Similar to *P. erythropygius*, but with the lower mandible black.

*Hab.* Northern Colombia.

Cassin states that six specimens obtained by Capt. Michler on the Rio Atrato in Northern Colombia are "undoubtedly of this species."

| | | | |
|---|---|---|---|
| *a.* | Ad. sk. | Northern Colombia. | Gould Coll. |

### 10. Pteroglossus bitorquatus.

Pteroglossus bitorquatus, *Vigors*, *Zool. Journ.* ii. p. 481 (1826); *Gould, P. Z. S.* 1834, p. 76; *id. Mon. Ramph.* ed. 1, pl. 16, ed. 2, pl. 26; *Sturm, Mon. Ramph.* pt. i. pl. 5; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 113; *Pelz. Orn. Bras.* p. 237; *Scl. et Salv. P. Z. S.* 1867, pp. 586, 595 (Para); *iid. Nomencl.* p. 109; *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).

Above dark green; cap black: upper back and rump edged with crimson: beneath, throat, neck, and sides of head dark chestnut, becoming black on the lower margin: neck-collar pale yellow; breast crimson: belly pale yellow: thighs and flanks green: upper mandible pale greenish yellow: lower mandible white; apical half black: whole length 14 inches, wing 4·7, tail 5, bill from gape 3·3.

*Female* similar.

*Hab.* Lower Amazonia.

| | | | |
|---|---|---|---|
| *a.* | Ad. st. | Para, Lower Amazons. | R. Graham, Esq. [P.]. |
| *b.* | ♂ ad. sk. | Para, Lower Amazons (*Wallace*). | Sclater Coll. |
| *c.* | Ad. sk. | Para. | Purchased. |
| *d.* | Ad. sk. | Lower Amazons. | Gould Coll. |
| *e.* | Ad. st. | Brazil. | Zool. Soc. Coll. |

### 11. Pteroglossus sturmi.

Pteroglossus sturmii, *Natt. MS.*; *Sturm, Mon. Ramph.* pt. iii. pl. 7; *Gould, Mon. Ramph.* ed. 2, pl. 27; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 113; *Pelz. Orn. Bras.* p. 237; *Scl. et Salv. Nomencl.* p. 109.

Similar to *P. bitorquatus*, but lower mandible black.

*Hab.* Rio Madeira.

The single specimen of this species obtained by Natterer near Borba on the Madeira, in 1830, remains, so far as I know, unique in the Vienna Museum.

### 12. Pteroglossus flavirostris.

Pteroglossus flavirostris, *Fraser, P. Z. S.* 1840, p. 60; *Gould, Mon. Ramph.* ed. 2, pl. 29; *Sturm, Mon. Ramph.* pt. iv. pl. 3 (text); *Bp. Consp.* i. p. 94; *Scl. P. Z. S.* 1854, p. 115, 1857, p. 267, et 1858, p. 75; *id. Cat. A. B.* p. 326.

Pteroglossus azaræ, *Gould, Mon. Ramph.* ed. 1, pl. 17; *Sturm, Mon. Ramph.* pt. i. pl. 4; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 114; *Pelz. Orn. Bras.* p. 237; *Scl. et Salv. P. Z. S.* 1867, p. 753, et 1873, p. 297 (E. Peru); *iid. Nomencl.* p. 109; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 148; *Berl. J. f. O.* 1889, p. 312.

Pteroglossus mariæ, *Gould, Mon. Ramph.* ed. 2, pl. 30; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 114.

Above dark green: cap black; nape dark crimson; rump scarlet; sides of head and throat dark chestnut, with a black border beneath; broad neck-band scarlet; upper belly black, lower belly pale yellow; thighs green; bill yellow, with a line of black spots along the edges of the upper mandible: whole length 15 inches, wing 5, tail 5·5, bill from gape 3·5. *Female* similar.

*Hab.* Colombia, Ecuador, and Upper Amazonia.

After carefully examining the present series I have come to the conclusion that the only satisfactory plan is to unite the birds termed by Gould *P. flavirostris* and *P. mariæ*. The brownish tinge on the lower mandible appears to be an unreliable character, and there is considerable variation in size in specimens from the same locality.

| | | |
|---|---|---|
| *a*. Ad. st. | E. Peru. | Purchased. |
| *b*, *c*. Ad. sk. | Bogota. | Gould Coll. |
| *d*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *e*. Ad. sk. | Bogota. | Sclater Coll. |
| *f*, *g*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *h*. Ad. sk. | Rio Napo. | Gould Coll. |
| *i*. Ad. sk. | Rio Javari (*Bates*). | Sclater Coll. |
| *k*. Ad. sk. | Xeberos, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *l*, *m*. ♂ ♀ ad. sk. | Samiria, Upper Amazons (*Hauxwell*). | Salvin-Godman Coll. |
| *n*. Ad. sk. | Upper Amazons (*Hauxwell*). | Gould Coll. |
| *o*. Ad. sk. | Upper Amazons. | Purchased. |
| *p*. Ad. sk. | Ega, Upper Amazons. | Purchased. |
| *q*, *r*. ♂ ♀ ad. sk. | R. Amazons. | Gould Coll. (Types of *P. mariæ*.) |
| *s*. Ad. sk. | R. Amazons (*Hauxwell*). | Gould Coll. (Types of *P. mariæ*.) |
| *t*. Ad. sk. | R. Amazons. | Purchased. |
| *u*. Ad. sk. | Oyapok, Cayenne (?). | Sclater Coll. |
| *v*. Ad. st. | R. Amazons. | Purchased. |

## 13. Pteroglossus azaræ.

L'Aracari Azara, *Levaill. Prom. et Guêp. Suppl.* p. 40, tab. A.

Ramphastos azaræ, *Vieill. Nouv. Dict.* xxxiv. p. 282; *id. Enc. Méth.* p. 1431; *id. Gal. Ois., Suppl.* (plate).

Pteroglossus azaræ, *Wagl. Syst. Av.* sp. 3; *Sturm, Mon. Ramph.* pt. iv. pl. 3; *Bp. Consp.* i. p. 94; *Gould, P. Z. S.* 1834, p. 76; *id. Mon. Ramph.* ed. 2, pl. 28; *Fraser, P. Z. S.* 1840, p. 60; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 114; *Scl. et Salv. Nomencl.* p. 109; *Tacz. Orn. Pér.* iii. p. 149.

Pteroglossus nigridens, *Temm. Man. d'Orn.* i. p. lxxv (?).

Similar to *P. flavirostris*, but rather smaller, and with a broad brown band along the lower edge of the upper mandible.

*Hab.* Guiana and Rio Negro.

| | | |
|---|---|---|
| *a*, *b*. Ad. st. | Rio Negro. | Purchased. |
| *c*, *d*. Ad. sk. | Rio Negro. | Gould Coll. |

### 14. Pteroglossus humboldti.

Pteroglossus humboldti, *Wagl. Syst. Av.* sp. 4 (1827); *Gould, Mon. Ramph.* ed. 1, pl. 22, ed. 2, pl. 22; *id. P. Z. S.* 1835, p. 157; *Sturm, Mon. Ramph.* pt. ii. pl. 5 (♂), pt. iii. pl. 8 (♀); *Scl. P. Z. S.* 1857, p. 267 (U. Amazons); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 112; *Pelz. Orn. Bras.* p. 237; *Scl. et Salv. P. Z. S.* 1866, p. 195 (Ucayali), 1867, p. 753, et 1873, p. 297 (E. Peru); *iid. Nomencl.* p. 109; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 149; *Berl. J. f. O.* 1889, p. 311.

Above dark green; head black; rump scarlet: beneath pale yellow; throat and neck black; thighs brown; upper mandible clear ochraceous; culminal ridge and row of spots along the cutting-edge black; lower mandible black: whole length 14 inches, wing 5, tail 5·5, bill from gape 3·5. *Female* similar, but throat, neck, and nape brown.

*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Nauta, R. Amazons. | E. Bartlett [C.]. |
| *b, c.* ♂ ♀ ad. sk. | Rio Javari. | W. Bates [C.]. |
| *d.* Ad. st. | Rio Javari. | W. Bates [C.]. |
| *e.* ♂ ad. sk. | Upper Ucayali. | E. Bartlett [C.]. |
| *f.* ♂ ad. sk. | Sarayacu, E. Peru (*Whitely*). | Sclater Coll. |
| *g, h.* ♂ ♀ ad. sk. | Elvira, E. Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *i.* ♂ ad. sk. | Yquitos, Upper Amazons (*Whitely*). | Salvin-Godman Coll. |
| *k.* ♀ ad. sk. | Chayavetas, E. Peru (*Bartlett*). | Sclater Coll. |
| *l.* Ad. st. | Amazonia. | Gould Coll. |
| *m.* ♂ ad.; *n–p.* ♀ ad. sk. | Upper Amazons. | Gould Coll. |
| *q, r.* ♀ ad. sk. | Andoa, Ecuador (*Buckley*). | Salvin-Godman Coll. |

### 15. Pteroglossus inscriptus.

Pteroglossus inscriptus, *Swains. Zool. Ill.* ser. 1, ii. pl. 90; *Wagl. Syst. Av.* sp. 5; *Gould, P. Z. S.* 1834, p. 77; *id. Mon. Ramph.* ed. 1, pl. 23, ed. 2, pl. 23; *Sturm, Mon. Ramph.* pt. iii. pl. 9; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 112; *Pelz. Orn. Bras.* p. 236; *Scl. et Salv. P. Z. S.* 1867, p. 586 (L. Amazons); *iid. Nomencl.* p. 109; *Layard, Ibis*, 1873, p. 393 (Para); *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).

Above dark green; head black; rump scarlet: beneath pale yellow; throat and neck black; thighs brown; bill clearly ochraceous; culminal ridge, tip, line at base, and row of spots along cutting-edge of upper mandible black: whole length 12 inches, wing 4·3, tail 4·7, bill from gape 2·7. *Female* similar, but throat and neck brown.

*Hab.* Guiana and Lower Amazonia.

Easily distinguished from *P. humboldti* by its smaller size and the clear pale ochraceous colour of the middle part of the lower mandible.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Cayenne. | Gould Coll. |
| *b.* ♀ ad. sk. | Para (*Wallace*). | Sclater Coll. |

| | | |
|---|---|---|
| *c.* ♀ ad. sk. | Para (*Layard*). | Sclater Coll. |
| *d.* ♀ ad. sk. | Para. | Gould Coll. |
| *e.* ♂ ad.; *f*, *g*. ? ad. sk. | Lower Amazons. | Gould Coll. |

### 16. Pteroglossus viridis.

Ramphastos viridis, *Linn. S. N.* i. p. 150; *Shaw, Nat. Misc.* pl. 717.
Pteroglossus viridis, *Sw. Zool. Ill.* ser. 1, iii. pl. 169; *Wagl. Syst. Av.* sp. 6; *Gould, P. Z. S.* 1834, p. 77; *id. Mon. Ramph.* ed. 1, pl. 21, et ed. 2, pl. 24; *Bp. Consp.* i. p. 94; *Scl. Cat. A. B.* p. 326; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 113; *Pelz. Orn. Bras.* p. 237; *Scl. et Salv. Nomencl.* p. 109; *Pelz. Ibis*, 1873, p. 116; *Salv. Ibis*, 1886, p. 65 (Brit. Guiana).
L'Aracari verd, *Levaill. Ois. de Par.* ii. pp. 41, 43, pls. 16, 17.
Rhamphastos glaber, *Lath. Ind. Orn.* i. p. 138.

Above dark green; head black; rump scarlet: beneath pale yellow; throat and neck black; upper mandible orange-yellow, with a longitudinal black line; lower mandible black, with a red basal line: whole length 12·5 inches, wing 4·7, tail 4·7, bill from gape 3. *Female* similar, but whole head, throat, and neck chestnut-brown.

*Hab.* Guiana and Lower Amazonia.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. st. | British Guiana. | R. Geogr. Soc. [P.]. |
| *c*. ♂ ad. sk. | Camacusa, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *d*, *e*. ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *f*. ♂ ad.; *g*, *h*. ♀ ad. sk. | British Guiana (*Whitely*). | Gould Coll. |
| *i*. ♂ ad. sk. | British Guiana. | Sclater Coll. |
| *k*, *l*. ♂ ♀ ad. sk. | Demerara. | Gould Coll. |
| *m*. ♂ ad. sk. | Maroni R., Surinam (*Kappler*). | Salvin-Godman Coll. |
| *n*. ♀ ad. sk. | Cayenne. | Sclater Coll. |
| *o*, *p*. ♀ ad. sk. | Cayenne. | Gould Coll. |
| *q*. ♂ ad. sk. | Barra do Rio Negro (*Natterer*). | Salvin-Godman Coll. |
| *r*. ♂ ad. st. | Lower Amazons. | Purchased. |

### 17. Pteroglossus didymus. (Plate VI.)

Pteroglossus didymus, *Scl. P. Z. S.* 1890, p. 403.

Above dark green; wings and tail blackish, with green edgings; rump scarlet; head black: beneath pale lemon-yellow, with a slight brownish wash on the middle of the belly; throat and sides of head black; thighs brown; upper mandible straw-yellow, with a black culminal band and black tip; lower mandible black, with a narrow yellowish border at the base: whole length 14·5 inches, wing 4·6, tail 5·6, bill (from gape to tip) 3·3.

*Hab.* Upper Amazonia.

Similar to *P. viridis*, but distinguished by the black culminal stripe and brown thighs.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Upper Amazons. | Salvin-Godman Coll. (Type of the species.) |

### 18. Pteroglossus beauharnaisi.

Pteroglossus beauharnaisi, *Wagl. Isis*, 1832, p. 280; *Sturm, Mon. Ramph.* pt. iv. pl. 2; *Gould, Mon. Ramph.* ed. 2, pl. xxv.; *Pelz. Orn. Bras.* p. 238; *Scl. P. Z. S.* 1857, p. 267 (U. Amazons); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 114; *Scl. et Salv. P. Z. S.* 1873, p. 297 (E. Peru); *iid. Nomencl.* p. 109; *Tacz. Orn. Pér.* iii. p. 152; *Berl. J. f. O.* 1889, p. 312.

Pteroglossus ulocomus, *Gould. P. Z. S.* 1833, p. 38, et 1834, p. 76; *id. Mon. Ramph.* ed. 1, pl. 18.

Pteroglossus poeppigii, *Wagl. Isis*, 1832, p. 1230.

Pteroglossus lepidocephalus, *Nitzsch, Pterylogr.* p. 136 (1840).

Above dark green; upper back and rump edged with crimson; head-feathers scaly, curled, shining black; beneath yellow; throat-feathers tipped with round black spots; broad band across belly and flanks scarlet; breast more or less stained with scarlet; thighs green; upper mandible blackish, with a broad culminal band of brownish orange; lower mandible white: whole length 17 inches, wing 5·5, tail 6·5, bill from gape 4. *Female* similar.

*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Chamicuros, Upper Amazons (*Bartlett*). | Gould Coll. |
| *b*. ♂ ad. sk. | Upper Amazons (*Bartlett*). | Sclater Coll. |
| *c*. Ad. sk. | Upper Amazons (*Bartlett*). | Salvin-Godman Coll. |
| *d*, *e*. Ad.; *f*. Jr. sk. | Upper Amazons (*Hauxwell*). | Gould Coll. |
| *g*. Jr. sk. | Upper Amazons. | Purchased. |
| *h*. Ad. st. | Upper Amazons. | Purchased. |

## 4. SELENIDERA.

| | Type. |
|---|---|
| Selenidera, *Gould, Icon. Av.* pt. 1, text to pl. 7 (1837).. | S. gouldi. |
| Piperivorus, *Bp. Consp. Vol. Zyg.* p. 4 (1854) ..... | S. piperivora. |
| Ramphastoides, *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 117. | S. spectabilis. |

In *Selenidera*, a group closely allied to *Pteroglossus*, but weaker in form, the sexes are always markedly different. The species, which present a great similarity in the general coloration of their plumage, are readily distinguishable by the singular patterns of the markings on their bills.

One species only of *Selenidera* is met with north of Panama; the other six are restricted to the forests of Guiana, Amazonia, and S.E. Brazil.

*Key to the Species.*

A. Tail-end rufous; body beneath black in the male.
  *a*. Cap of male black, of female chestnut; nuchal band yellow in both sexes.
    *a'*. Bill pale, whitish:
      upper mandible with transverse bars ..... 1. *maculirostris*, p. 149.
      upper mandible with a large black blotch ..... 2. *gouldi*, p. 150.
    *b'*. Bill wholly dark ..... 3. *langsdorffi*, p. 150.
    *c'*. Bill more or less reddish:
      without black transverse bars .... 4. *reinwardti*, p. 151.
      with black transverse bars ..... 5. *nattereri*, p. 151.
  *b*. Cap black in both sexes; nuchal band of male orange, of female chestnut ..... 6. *piperivora*, p. 152.
B. Tail uniform; body beneath black in both sexes ..... 7. *spectabilis*, p. 153.

## 1. Selenidera maculirostris.

Pteroglossus maculirostris, *Licht. Doubl.* p. 7; *Max. Beitr.* iv. p. 290; *Wagl. Syst. Av.* sp. 9; *Gould, P. Z. S.* 1834, p. 78; *id. Mon. Ramph.* ed. 1, pl. 24; *Sturm, Mon. Ramph.* pt. i. pl. 7.

Ramphastos maculatus, *Vieill. Gal. Ois.* ii. Suppl. (cum fig.); *Jard. et Selb. Ill. Orn.* i. pl. 26.

Selenidera maculirostris, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 31; *Scl. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 115; *Pelz. Orn. Bras.* p. 238; *Berl. J. f. O.* 1873, p. 279 (S. Brazil); *Scl. et Salv. Nomencl.* p. 109; *Cab. J. f. O.* 1874, p. 228 (S. Brazil).

L'Aracari Koulik du Brésil, *Levaill. Ois. de Par.* ii. p. 39, pl. 15 (♂).

L'Aracari, Koulik du Pérou, *Levaill. Prom. et Guêp. Suppl.* p. 41, fig. A A (♀).

Pteroglossus maculatus, *Jard. et Selby Ill. Orn.* i. pl. 26.

Above dark green; cap black, bordered by a pale yellow band on the nape; tail-end chestnut; broad postocular stripe orange: beneath from chin to middle of belly black; lower belly greenish; flanks orange; thighs brown; crissum scarlet; bill milky white, with several broad transverse blotches on the upper mandible: whole length 13 inches, wing 5·2, tail 4·5, bill from gape 2·5. *Female* similar, but cap and body beneath chestnut instead of black.

*Hab.* South-eastern Brazil.

| | | |
|---|---|---|
| *a*. ♂ ad. st. | S.E. Brazil. | Gould Coll. |
| *b*. ♂ ad. st. | S.E. Brazil. | Lt. Maw, R.N. [P.]. |
| *c, d*. ♂ ad.; *e, f*. ♀ ad. sk. | Novo Fribourgo, Rio (*Youds*). | Salvin-Godman Coll. |
| *g, h*. ♂ ♀ ad. sk. | São Paolo, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *i, k*. ♂ ♀ ad. sk. | S.E. Brazil. | Sclater Coll. |
| *l, m*. ♂ ♀ ad. sk. | S.E. Brazil. | Salvin-Godman Coll. |
| *n, o*. ♂ ad.; *p*. ♂ jr.; *q–s*. ♀ ad. sk. | S.E. Brazil. | Gould Coll. |

### 2. Selenidera gouldi.

Pteroglossus gouldii, *Natt. MS.*; *Gould, P. Z. S.* 1837, p. 44; *id. Icon. Av.* pt. i. pl. 7; *Sturm, Mon. Ramph.* pt. i. pl. 8.

Selenidera gouldii, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 32; *Scl. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 116; *Pelz. Orn. Bras.* p. 238; *Scl. et Salv. P. Z. S.* 1867, p. 586 (Para); *iid. Nomencl.* p. 109; *Layard, Ibis*, 1873, p. 393 (Para); *Tacz. Orn. Pér.* iii. p. 156.

Above dark green; cap black, bordered by a pale yellow nuchal band; tail-end chestnut; broad postocular stripe orange, tipped with yellow: beneath, from chin to middle of belly, black; lower belly greenish; flanks orange; thighs chestnut; crissum scarlet; bill milky white, with a large black blotch occupying the basal half of the upper mandible: whole length 13 inches, wing 5·2, tail 4·5, bill from gape 2·5. *Female* similar, but black on head and body; beneath replaced by bright rufous.

*Hab.* Lower Amazonia.

This species is a close ally of *S. maculirostris*, but at once distinguishable by the large black blotch which occupies the basal portion of the upper mandible.

| | | |
|---|---|---|
| *a*. ♂ ad. st. | Lower Amazons. | Zool. Soc. Coll. |
| *b*. ♂ ad. sk. | Para (*Natterer*). | Sclater Coll. |
| *c*. ♂ ad. sk. | Para (*Wallace*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Para (*Layard*). | Tweeddale Coll. |
| *e,f*. ♂ ♀ ad. sk. | Lower Amazons. | Gould Coll. |
| *g*. ♀ ad. sk. | Lower Amazons. | Sclater Coll. |
| *h*. ♀ ad. sk. | Lower Amazons. | Purchased. |

### 3. Selenidera langsdorffi.

Pteroglossus langsdorffi, *Wagl. Syst. Av.* sp. 12; *Gould, Mon. Ramph.* ed. 1, pl. 28; *id. P. Z. S.* 1835, p. 157; *Sturm, Mon. Ramph.* pt. ii. pl. 6.

Selenidera langsdorffi, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 33; *Scl. P. Z. S.* 1857, p. 267 (U. Amazons); *Scl. et Salv. P. Z. S.* 1866, p. 195 (Ucayali), et 1873, p. 298 (E. Peru); *iid. Nomencl.* p. 109; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 116; *Tacz. Orn. Pér.* iii. p. 154; *Berl. J. f. O.* 1889, p. 312.

Above dark green; top of head black, bordered by a pale yellow nuchal collar; tail-end chestnut; sides of head behind eyes yellow: beneath from chin to middle of belly black; flanks orange: lower belly greenish: thighs chestnut: crissum scarlet; bill black; base of upper mandible greenish: whole length 13 inches, wing 5·2, tail 4·5, bill from gape 2·7. *Female* similar, but black of head and body beneath replaced by chestnut-red.

*Hab.* Upper Amazonia.

The nearly uniform bill distinguishes this species.

| | | |
|---|---|---|
| *a*. ♂ ad. st. | Ega, Upper Amazons. | Purchased. |

| | | |
|---|---|---|
| *b.* ♂ ad. sk. | Chamicuros, Upper Amazons (*Bartlett*). | Gould Coll. |
| *c.* ♂ ad. sk. | Chamicuros, Upper Amazons (*Bartlett*). | Sclater Coll. |
| *d, e.* ♂ ♀ ad. sk. | Ega, Upper Amazons (*Bates*). | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Peruvian Amazons (*Bartlett*). | Gould Coll. |
| *g, h.* ♂ ♀ ad. sk. | E. Peru. | Gould Coll. |
| *i.* ♀ ad. sk. | Upper Amazons. | Purchased. |

### 4. Selenidera reinwardti.

Pteroglossus reinwardtii, *Wagl. Syst. Av.* sp. 11; *Gould, P. Z. S.* 1835, p. 157; *id. Mon. Ramph.* ed. 1, pl. 26; *Sturm, Mon. Ramph.* pt. i. pl. 10.

Selenidera reinwardtii, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 35; *Sclater, P. Z. S.* 1858, p. 75 (Ecuador); *id. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 116; *Scl. et Salv. P. Z. S.* 1867, p. 753, et 1873, p. 298 (E. Peru); *iid. Nomencl.* p. 109; *Tacz. P. Z. S.* 1874, p. 548 (C. Peru), et 1882, p. 45 (N.E. Peru); *id. Orn. Pér.* iii. p. 153.

Above dark green; head and nape black, bordered by a pale yellow nuchal collar; postocular stripe orange; tail-end chestnut: beneath black; middle of belly greenish; flanks orange; thighs chestnut; crissum scarlet; bill reddish, culminal ridge and tip blackish: whole length 13 inches, wing 5, tail 4·5, bill from gape 2·7. *Female* similar, but black of head and body beneath replaced by chestnut.

*Hab.* Upper Amazonia and Eastern Ecuador.

The reddish bill without black transverse markings is the chief character of this species.

| | | |
|---|---|---|
| *a.* Ad. st. | E. Peru. | Purchased. |
| *b.* ♂ ad. sk. | Chayavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *c, d.* ♂ ♀ ad. sk. | E. Peru. | Gould Coll. |
| *e, f.* ♂ ♀ ad. sk. | Upper Amazons. | Gould Coll. |
| *g, h.* ♂ ♀ ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *i.* ♂ ad. sk. | Rio Napo. | Sclater Coll. |

### 5. Selenidera nattereri.

Pteroglossus nattereri, *Gould, P. Z. S.* 1835, p. 157; *id. Mon. Ramph.* ed. 1, pl. 25; *Sturm, Mon. Ramph.* pt. i. pl. 9.

Selenidera nattereri, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 34; *Pelz. Orn. Bras.* p. 238; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 117; *Scl. et Salv. P. Z. S.* 1867, p. 586 (Rio Negro); *iid. Nomencl.* p. 109; *Salv. Ibis*, 1886, p. 66 (Brit. Guiana).

Above green; head and nape black, bordered beneath by a narrow nuchal collar of pale yellow; tail-end chestnut; postocular stripe yellow: beneath, down to middle of belly, black; lower belly greenish; flanks orange; thighs chestnut; crissum scarlet; bill reddish: blotch at base and numerous transverse stripes black:

whole length 12·5 inches, wing 5, tail 4·5, bill from gape 2·3. *Female* similar, but head and body beneath chestnut instead of black.

*Hab.* British Guiana and Lower Amazonia.

The markings on the bill distinguish this species from *S. reinwardti*.

| | | |
|---|---|---|
| *a.* ♀ ad. st. | Lower Amazons. | Purchased. |
| *b, c.* ♂ ♀ ad. sk. | Brit. Guiana (*Schomburgk*). | Gould Coll. |
| *d.* ♂ ad. sk. | Oyapok, Cayenne. | Salvin-Godman Coll. |
| *e.* ♂ ad. sk. | Oyapok, Cayenne. | Sclater Coll. |

## 6. Selenidera piperivora.

Ramphastos piperivorus, *Linn. S. N.* i. p. 150; *Gm. S. N.* i. p. 353; *Lath. Ind. Orn.* i. p. 138.
Pteroglossus culik, *Wagl. Syst. Av.* sp. 10; *Gould, P. Z. S.* 1834, p. 78; *id. Mon. Ramph.* ed. 1, pl. 27.
Pteroglossus piperivorus, *Sturm, Mon. Ramph.* pt. iv. pl. 5.
Selenidera piperivora, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 36; *Scl. Cat. A. B.* p. 327; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 117; *Pelz. Orn. Bras.* p. 239; *Scl. et Salv. Nomencl.* p. 109; *Salv. Ibis*, 1886, p. 66 (Brit. Guiana).
Toucan à collier de Cayenne, *Daub. Pl. Enl.* 577 (♂).
Toucan à ventre gris de Cayenne, *Daub. Pl. Enl.* 729 (♀).
L'Aracari Koulik, *Levaill. Ois. de Par.* pp. 35, 37, pls. 13, 14.

Above dark green; cap and nape black, bordered by a yellow nuchal band; tail-end chestnut; stripe behind eye yellow: beneath from chin to middle of belly black; lower belly and flanks green washed with yellow; thighs chestnut; crissum scarlet; bill mostly black with a reddish base, which is more or less varied by transverse black markings on the upper mandible: whole length 13 inches, wing 4·8, tail 4·2, bill from gape 3. *Female* similar, but black of cap bordered by a broad nuchal collar of dark chestnut, and body beneath greyish green instead of black.

*Hab.* Guiana and Lower Amazonia.

| | | |
|---|---|---|
| *a.* ♀ ad. st. | British Guiana. | R. Geogr. Soc. |
| *b.* ♀ ad. st. | South America. | Gould Coll. |
| *c, d.* ♂ ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e.* ♂ ♀ ad. sk. | R. Atapurow, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Camacusa, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *g.* ♀ ad. sk. | Demerara. | Salvin-Godman Coll. |
| *h.* ♂ ad. sk. | Demerara. | Gould Coll. |
| *i, k.* ♂ ♀ ad. sk. | Cayenne. | Sclater Coll. |
| *l, m.* ♂ ♀ ad. sk. | R. Amazons (?). | Gould Coll. |

### 7. Selenidera spectabilis.

Selenidera spectabilis, *Cassin, Pr. Ac. Sc. Phil.* 1857, p. 214, et 1867, p. 117; *id. Journ. Ac. Sc. Phil.* iv. ser. 2, p. 1, pl. 1; *Lawr. Ann. Lyc. N. Y.* vii. p. 474 (Colombia), et ix. p. 129 (Costa Rica); *Scl. et Salv. P. Z. S.* 1864, p. 366 (Panama); *iid. Nomencl.* p. 109; *Salv. P. Z. S.* 1867, p. 157, et 1870, p. 211 (Veragua); *id. Ibis*, 1872, pp. 313, 323 (Nicaragua); *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Bouc. P. Z. S.* 1878, p. 47 (Costa Rica).

Above green, tail greyish; head and nape black; large postocular stripe lemon-yellow: beneath from chin to middle of belly black; flanks orange; thighs dark chestnut; crissum scarlet; bill divided by a line from the nostrils running into the commissure towards the apex; colour beneath this line horny grey, above it greenish: whole length 14 inches, wing 5·5, tail 5·5, bill from gape 3·5. *Female* similar, but head dark chestnut, and without any yellow postocular stripe: body beneath black, as in the male.

*Hab.* Nicaragua, Costa Rica, and Veragua.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *c.* ♂ ad. sk. | Tucurriqui, Costa Rica (*Arcé*). | Salvin-Godman Coll. |
| *d, e.* ♂ ♀ ad. sk. | Cordillera de Tolé (*Arcé*). | Salvin-Godman Coll. |
| *f, g.* ♂ ♀ ad. sk. | Veragua (*Arcé*). | Sclater Coll. |
| *h.* ♂ ad. sk. | Veragua (*Arcé*). | Salvin-Godman Coll. |
| *i, k.* ♂ ♀ ad. sk. | Santa Fé, Veragua (*Arcé*). | Gould Coll. |

## 5. AULACORHAMPHUS.

| | Type. |
|---|---|
| Aulacorhynchus, *Gould, P. Z. S.* 1834, p. 147 ..... | A. sulcatus. |
| Aulacoramphus, *G. R. Gray, List Gen. B.* p. 50 (1840) ..... | A. sulcatus. |
| Ramphoxanthus, *Bp. Consp. Vol. Zyg.* p. 4 (1854) .. | A. albivittatus. |

The bright green Toucans which form the genus *Aulacorhamphus* are at once recognizable by their uniform style of plumage, which imitates that of the forest-leaves. They are rather numerous in species and are widely distributed in the Neotropical Region, two of them being met with in Mexico, and others taking their places throughout Central and Southern America into the south of Amazonia, but not extending to the forests of S.E. Brazil.

The sexes in this genus are coloured alike.

*Key to the Species.*

A. Throat white or whitish.
  *a.* Tail uniform green.
    *a'.* Tip of bill obscure:
      lower mandible black at base.... 1. *sulcatus*, p. 154.
      lower mandible red at base .... 2. *erythrognathus*, p. 154.
    *b'.* Tip of bill bright yellow ..... 3. *calorhynchus*, p. 155.

*b*. Tail tipped with chestnut.
*c'*. Rump uniform.
*a''*. Crissum green:
culmen black ..... 4. *derbianus*, p. 155.
culmen red ..... 5. *whitelyanus*, p. 156.
*b''*. Crissum rufous.
*a'''*. Basal band of bill yellow:
base of upper mandible partly yellow ..... 6. *prasinus*, p. 156.
base of upper mandible black. 7. *wagleri*, p. 157.
*b'''*. Basal band of bill white..... 8. *albivittatus*, p. 157.
*d'*. Rump scarlet; crissum green:
bill red with a white basal band . 9. *hæmatopygius*, p. 158.
bill grey with a white tip ..... 10. *cæruleicinctus*, p. 159.
B. Throat blue; crissum chestnut:
upper mandible mostly yellow ..... 11. *cæruleigularis*, p. 159.
upper mandible black with yellow tip. 12. *cyanolæmus*, p. 160.
C. Throat black; crissum chestnut:
bill longer..... 13. *atrogularis*, p. 160.
bill shorter ..... 14. *dimidiatus*, p. 160.

## 1. Aulacorhamphus sulcatus.

Pteroglossus sulcatus, *Sw. Quart. Journ. of Sci.* ix. p. 267; *id. Zool. Ill.* ser. 1, i. pl. 44; *Wagl. Syst. Av.* sp. 8; *Temm. Pl. Col.* 356; *Gould, Mon. Ramph.* ed. 1, pl. 31; *id. P. Z. S.* 1834, p. 79; *Sturm, Mon. Ramph.* pt. iv. pl. 6.

Aulacoramphus sulcatus, *Bp. Consp.* i. p. 95; *Gould, Mon. Ramph.* ed. 2, pl. 42; *Sel. Cat. A. B.* p. 328; *Sel. et Salv. P. Z. S.* 1868, pp. 169, 629 (Venezuela); *iid. Nomencl.* p. 109; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 118.

Above uniform green; eye-region blue: beneath brighter; throat greyish white: tip of tail bluish; bill, much sulcated on both mandibles, black; basal portion of upper mandible red: whole length 14 inches, wing 5, tail 4·8, bill 3. *Female* similar.

*Hab.* Venezuela.

| | | |
|---|---|---|
| *a*. Ad. st | Bogota. | Purchased. |
| *b*. ♂ ad. sk. | San Esteban, Venezuela (*Goering*). | Gould Coll. |
| *c*. Ad. sk. | Venezuela (*Goering*). | Salvin-Godman Coll. |
| *d*, *e*. Ad. sk. | Venezuela. | Sclater Coll. |
| *f*–*h*. Ad. sk. | Venezuela. | Gould Coll. |
| *i*. Ad. sk. | Venezuela. | Mrs. Fletcher [P.]. |

## 2. Aulacorhamphus erythrognathus. (Plate VII.)

Aulacorhamphus erythrognathus, *Gould, Ann. N. H.* ser. 4, xiv. p. 184 (Venezuela).

Above uniform green; eye-region blue: beneath brighter; throat greyish white; tip of tail slightly bluish: bill sulcated, horn-colour: base of lower mandible and of lower portion of upper mandible bright red: whole length 12 inches, wing 4·5, tail 4·3, bill from gape 2·5.

*Hab.* Venezuela.

Similar to *A. sulcatus*, but apparently smaller, and distinguished by the bright red base of the bill.

| | | |
|---|---|---|
| *a.* Ad. sk. | Venezuela. | Gould Coll. (Type of the species.) |
| *b.* ♂ ad. sk. | Caripé, Venezuela (*Goering*). | Salvin-Godman Coll. |

### 3. Aulacorhamphus calorhynchus. (Plate VIII.)

Aulacorhamphus calorhynchus, *Gould, Ann. N. H.* ser. 4, xiv. p. 183 (Merida); *Scl. et Salv. P. Z. S.* 1875, pp. 235, 236 (Venezuela); *Salv. et Godm. Ibis*, 1879, p. 206 (Colombia).

Above green; eye-region blue: beneath brighter; throat bluish grey: bill black, culminal portion of upper mandible and tip of lower mandible clear yellow; narrow line at the base of both mandibles white: whole length 14 inches, wing 5, tail 4·8, bill from gape 2·8.

*Hab.* Andes of Venezuela and Northern Colombia.

The strongly coloured bill distinguishes this species from the two former.

| | | |
|---|---|---|
| *a.* ♂ ad.; *b.* ad. sk. | Merida, Venezuela (*Goering*). | Gould Coll. (Types of the species.) |
| *c.* ♂ ad. sk. | Chinchicua, Santa Marta (*Simons*). | Salvin-Godman Coll. |

### 4. Aulacorhamphus derbianus.

Aulacorhynchus derbianus, *Gould, P. Z. S.* 1835, p. 49.

Pteroglossus derbianus, *Gould, Mon. Ramph.* ed. 1, pl. 32; *Sturm, Mon. Ramph.* pt. ii. pl. 9.

Aulacoramphus derbianus, *Bp. Consp.* i. p. 96; *Gould, Mon. Ramph.* ed. 2, pl. 43; *Scl. Cat. A. B.* p. 328; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 118; *Scl. et Salv. Nomencl.* p. 109; *iid. P. Z. S.* 1879, p. 634 (Bolivia); *Berl. et Tacz. P. Z. S.* 1885, p. 116 (Ecuador); *Tacz. Orn. Pér.* iii. p. 158; *Berl. J. f. O.* 1889, p. 313.

Above green; eye-region and nape washed with blue; tips of two middle tail-feathers chestnut: beneath brighter; throat greyish white; bill blackish; base of both mandibles and tip of upper mandible more or less bright red: whole length 13 inches, wing 5, tail 4·8, bill from gape 3. *Female* similar.

*Hab.* Andes of Bolivia, Peru and Ecuador.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Tilotilo, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Tilotilo, Bolivia (*Buckley*). | Sclater Coll. |
| *d.* Ad. sk. | Nairapi, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Jima, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Archidona, Ecuador (*Jameson*). | Sclater Coll. |

### 5. Aulacorhamphus whitelyanus. (Plate IX.)

Pteroglossus sulcatus, *Cab. in Schomb. Guian.* iii. p. 721 (?).
Aulacorhamphus whitelyanus, *Salv. et Godm. Ibis*, 1882, p. 83; *Salv. Ibis*, 1886, p. 66 (Brit. Guiana).

Above green; eye-region bluish; tips of two middle rectrices chestnut: beneath brighter green; throat whitish; bill blackish; greater part of culmen, tip, and base of lower mandible red: whole length 12 inches, wing 4·8, tail 4·4, bill from gape 2·5.

*Hab.* Roraima district of British Guiana.

Similar to *A. derbianus*, but rather smaller and distinguished by its red culmen, and the absence of the bluish nuchal patch.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*, *c*. ♀ ad. sk. | Roraima, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Roraima (*Whitely*). | Sclater Coll. |
| *e*. ♂ ad. sk. | Merumé Mts. (*Whitely*). | Salvin-Godman Coll. (Type of the species.) |

### 6. Aulacorhamphus prasinus.

Pteroglossus prasinus, *Licht. in Mus. Berol.*; *Gould, P. Z. S.* 1834, p. 78; *id. Mon. Ramph.* ed. 1, pl. 29; *Sturm, Mon. Ramph.* pt. i. pl 6.
Aulacoramphus prasinus, *Bp. Consp.* i. p. 96; *Gould, Mon. Ramph.* ed. 2, pl. 47; *Sclater, P. Z. S.* 1856, p. 308, et 1859, p. 368 (Mexico); *id. Cat. A. B.* p. 328; *Sclat. et Salv. Ibis*, 1859, p. 135; *iid. P. Z. S.* 1870, p. 837 (Honduras); *iid. Nomencl.* p. 109; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 120; *Ridgw. P. U. S. N. M.* ix. p. 163 (Mexico).

Above green; tail tinged with bluish, and all the tail-feathers broadly tipped with dark chestnut: beneath brighter; flanks slightly yellowish; throat white; crissum chestnut: upper mandible clear yellow; blotch at the base of the culmen and narrow line along the commissure black or brownish black; lower mandible black: whole length 14 inches, wing 5·2, tail 5·2, bill from gape 3. *Female* similar.

*Hab.* Southern Mexico, Guatemala, and Honduras.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*. jr. sk. | Cofre de Perote, Vera Cruz, Mexico. | Salvin-Godman Coll. |
| *c–e*. ♂ ad. sk. | Jalapa, Mexico. | Salvin-Godman Coll. |
| *f*, *g*. ♂ jr.; *h*. ♀ jr. sk. | Coatepec, Vera Cruz (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *i*. ♀ jr. sk. | Huatusco, Vera Cruz (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *k*, *l*. ♂ ♀ ad. sk. | Orizaba, Vera Cruz (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *m*, *n*. ♂ ad.; *o*. ♀ ad. sk. | Tonaguia, Oaxaca (*Trujillo*). | Salvin-Godman Coll. |
| *p*. ♀ ad. sk. | British Honduras (*Blancaneaux*). | Salvin-Godman Coll. |
| *q*, *r*. Ad. st. | Mexico. | Purchased. |
| *s*. Ad. sk. | Orizaba, Mexico. | Gould Coll. |
| *t*. Ad. sk. | Jalapa, Mexico (*de Oca*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *u*, *v*. Ad. sk. | Mexico. | Gould Coll. |
| *w*. Ad. sk. | Mexico. | Purchased. |
| *x*. Ad. sk. | British Honduras (*Blancaneaux*). | Salvin-Godman Coll. |
| *y*. ♀ ad. sk. | Coban, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *z*. Ad. sk. | Rasché, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *a'*, *b'*. ♀ ad. sk. | Volcan de Fuego, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *c'*. Ad. sk. | Volcan de Fuego, Guatemala (*Salvin*). | Tweeddale Coll. |
| *d'*. ♂ ad. sk. | Calderas, Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *e'*, *f'*. Ad. sk. | Guatemala. | Gould Coll. |
| *g'*. Ad. sk. | Guatemala. | Sclater Coll. |

### 7. Aulacorhamphus wagleri.

Pteroglossus wagleri, *Sturm, Mon. Ramph.* pt. ii. pl. 7.
Aulacorhamphus wagleri, *Gould, Mon. Ramph.* ed. 2, pl. xlviii.; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 120; *Scl. P. Z. S.* 1859, p. 388 (S. Mexico); *Scl. et Salv. Nomencl.* p. 109.
Pteroglossus pavoninus, *Gould, P. Z. S.* 1835, p. 158; *id. Mon. Ramph.* ed. 1, pl. 30 (err.); *Wagl. Isis*, 1829, p. 507?
Aulacorhamphus pavoninus, *Salv. et Godm. Ibis*, 1889, p. 240 (Mexico).

Similar to *A. prasinus*, but base of upper mandible wholly black.
*Hab.* Western Mexico.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Sacatepec, Mexico (*Boucard*). | Gould Coll. |
| *b*. ♀ ad. sk. | Omilteme, Guerrero, Mexico (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |

### 8. Aulacorhamphus albivittatus.

Pteroglossus albivitta, *Boiss. Rev. Zool.* 1840, p. 70; *Sturm, Mon. Ramph.* pt. ii. text to pl. 8.
Pteroglossus microrhynchus, *Sturm, Mon. Ramph.* pt. ii. pl. 8.
Aulacoramphus albivitta, *Bp. Consp.* i. p. 96; *Gould, Mon. Ramph.* ed. 2, pl. 49; *Scl. P. Z. S.* 1855, p. 161; *Scl. et Salv. P. Z. S.* 1870, p. 782 (Venezuela), et 1879, p. 537 (Antioquia); *iid. Nomencl.* p. 109; *Wyatt, Ibis*, 1871, p. 380 (Colombia); *Salv. et Godm. Ibis*, 1879, p. 206 (Colombia); *Berl. J. f. O.* 1884, p. 319 (Bucaramanga).
Aulacorhamphus albivittatus, *Scl. P. Z. S.* 1858, p. 75 (Ecuador); *id. Cat. A. B.* p. 328; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 120.
Aulacorhamphus phæolæmus, *Gould, Ann. N. H.* ser. 4, xiv. p. 184 (Colombia and Venezuela).

Above green; eye-region bluish; tail tinged with blue, all the rectrices more or less broadly tipped with chestnut: beneath brighter green; throat greyish white; crissum chestnut; bill black, culmen yellow, distinct line along the base of both mandibles white: whole length 13 inches, wing 5, tail 5, bill 3. *Female* similar.

*Hab.* Colombia, Venezuela, and Ecuador.

The distinct white line at the base of the bill renders this Toucan easily distinguishable among the green-rumped species.

| | | |
|---|---|---|
| *a*. Ad. st. | Bogota. | Purchased. |
| *b*, *c*. ♂ ♀ ad. sk. | Merida, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Merida, Venezuela (*Goering*). | Sclater Coll. |
| *e*. ♂ ad. sk. | Sierra Nevada of Venezuela (*Goering*). | Gould Coll. (Type of *A. phæolæmus*.) |
| *f*. Ad. sk. | Venezuela. | Sclater Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | Chinchichua, Santa Marta (*Simons*). | Salvin-Godman Coll. |
| *i*. Ad. sk. | Santa Marta, U. S. C. (*Simons*). | Sclater Coll. |
| *k*–*o*. Ad. sk.; *p*. jr. sk. | Bogota. | Gould Coll. |
| *q*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *r*, *s*. Ad. sk. | Bogota. | Sclater Coll. |
| *t*. ♂ ad. sk. | Concordia, Antioquia (*Salmon*). | Gould Coll. |
| *u*. Ad. sk. | Envigado, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *v*. Ad. sk. | Envigado, Antioquia (*Salmon*). | Sclater Coll. |
| *w*, *x*. Ad. sk. | Antioquia (*Salmon*). | Gould Coll. |
| *y*, *z*. Ad. sk. | Intac, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *a'*. Ad. sk. | Ecuador. | Gould Coll. |
| *b'*. Ad. sk. | S. America. | Gould Coll. |

### 9. Aulacorhamphus hæmatopygius.

Pteroglossus hæmatopygus, *Gould, P. Z. S.* 1834, p. 147; *id. Mon. Ramph.* ed. 1, pl. 33; *Sturm, Mon. Ramph.* pt. ii. pl. 10.

Aulacoramphus hæmatopygius, *Bp. Consp.* i. p. 96; *Gould, Mon. Ramph.* ed. 2, pl. 45; *Scl. P. Z. S.* 1859, p. 146 (Ecuador); *id. Cat. A. B.* p. 328; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 119; *Scl. et Salv. Nomencl.* p. 109; *id. P. Z. S.* 1879, p. 537 (Antioquia); *Berl. et Tacz. P. Z. S.* 1884, p. 308 (W. Ecuador); *Tacz. Orn. Pér.* iii. p. 161.

Aulacorhamphus sex-notatus, *Gould, P. Z. S.* 1868, p. 219.

Pteroglossus (Aulacorhamphus) castaneorhynchus, *Gould, Ann. N. H.* vol. ix. p. 238 (1842).

Aulacorhamphus castaneorhynchus, *Gould, Mon. Ramph.* ed. 2, pl. 44; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 119.

Above green; superciliaries and patch beneath the eye slightly bluish; rump-band crimson; tail tinged with blue, four middle rectrices broadly tipped with chestnut: beneath brighter green, sometimes bluish on the chest; bill red, stained with blackish, and with a distinct white basal band: whole length (large specimen) 15 inches, wing 5·5, tail 6, bill from gape 4·3; (small specimen) 13 inches, wing 4·5, tail 5, bill from gape 2·5. *Female* similar.

*Hab.* Colombia and Ecuador.

There is an enormous difference in size between the larger and smaller examples of this species, especially as regards the bill. But I do not see how the so-called *A. castaneorhynchus* from Bogota can be separated from *A. hæmatopygius*. Cassin was of the same opinion (*cf.* Pr. Ac. Sc. Phil. 1867, p. 119).

| | | |
|---|---|---|
| *a*. Ad. st. | Bogota. | Purchased. |
| *b*. Ad.; *c*. Jr. sk. | Bogota. | Salvin-Godman Coll. |
| *d*, *e*. Ad. sk. | Bogota. | Sclater Coll. |
| *f*–*i*. Ad.; *k*, *l*. Jr. sk. | Bogota. | Gould Coll. |

| | | |
|---|---|---|
| *m*. ♀ ad. sk. | Concordia, Ant. (*Salmon*). | Salvin-Godman Coll. |
| *n*. Ad. sk. | Concordia, Ant. (*Salmon*). | Sclater Coll. |
| *o*. Ad. sk. | Medellin, Ant. (*Salmon*). | Gould Coll. |
| *p*. Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Sclater Coll. |
| *q*. Ad. sk. | Pallatanga, Ecuador (*Fraser*). | Gould Coll. |
| *r*. Ad. sk. | Quito, Ecuador. | Salvin-Godman Coll. |
| *s–v*. Ad. sk. | Quito, Ecuador. | Gould Coll. |
| *w*. Ad. sk. | Jima, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *x*. Ad. sk. | Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *y*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *z*, *a'*. Ad. sk. | Peru. | Gould Coll. |
| *b'*. Ad. sk. | Peru (?). | Gould Coll. (Type of *A. sex-notatus*.) |

## 10. Aulacorhamphus cæruleicinctus.

Aulacorhynchus cæruleocinctus, *d'Orb. Voy., Ois.* p. 382, t. lxvi. fig. 2.

Aulacoramphus cæruleicinctus, *Bp. Consp.* i. p. 96; *Gould, Mon. Ramph.* ed. 2, pl. 46; *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 119; *Scl. et Salv. Nomencl.* p. 109; *iid. P. Z. S.* 1873, p. 186 (Peru), et 1879, p. 634 (Bolivia); *Tacz. Orn. Pér.* iii. p. 160.

Pteroglossus lichtensteini, *Sturm, Mon. Ramph.* (plate).

Above green; eye-region bluish; rump-band crimson; tips of middle rectrices chestnut: beneath bright green, with a bluish band across the breast; throat white; bill grey, with whitish tip: whole length 16 inches, wing 5·8, tail 5·5, bill from gape 4·5. *Female* similar.

*Hab.* Bolivia and Southern Peru.

| | | |
|---|---|---|
| *a*. Ad. sk. | Tilotilo, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *b*, *c*. Ad. sk. | Khapaguaia, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | Bolivia (?). | Salvin-Godman Coll. |
| *e*. Ad. sk. | Huasampilla, S. Peru (*Whitely*). | Salvin-Godman Coll |
| *f*. Ad. sk. | Huasampilla, S. Peru (*Whitely*). | Sclater Coll. |
| *g–i*. Ad. sk. | S. Peru. | Gould Coll. |

## 11. Aulacorhamphus cæruleigularis.

Aulacorhamphus cæruleigularis, *Gould, P. Z. S.* 1853, p. 45 (Veragua); *id. Mon. Ramph.* ed. 2, pl. 51; *Cab. J. f. O.* 1862, p. 330 (Costa Rica); *Cassin, Pr. Ac. Sc. Phil.* 1867, p. 121; *Salv. P. Z. S.* 1867, p. 157, et 1870, p. 211 (Veragua); *Frantz. J. f. O.* 1869, p. 362 (Costa Rica); *Scl. et Salv. Nomencl.* p. 110; *Boucard, P. Z. S.* 1878, p. 47 (Costa Rica).

Above green; tail bluish, all the rectrices tipped with chestnut: beneath brighter; throat blue; crissum chestnut; upper mandible yellow, with a black culminal patch and black stripe along the commissure; lower mandible black; a white basal line to both mandibles: whole length 13 inches, wing 4·8, tail 4·4, bill from gape 3. *Female* similar.

*Hab.* Costa Rica and Veragua.

| | | |
|---|---|---|
| *a*. Ad. sk. | San José, Costa Rica (*Zeledon*). | Salvin-Godman Coll. |
| *b*. Ad. sk. | Costa Rica (*Rogers*). | Sclater Coll. |
| *c–g*. Ad. sk. | Costa Rica. | Gould Coll. |
| *h*, *i*. Ad. sk. | Costa Rica (*Carmiol*). | Purchased. |
| *k*. ♀ ad. sk. | Calovevora, Veragua (*Arcé*). | Salvin-Godman Coll. |
| *l*, *m*. ♂ ♀ ad. sk. | Santa Fé, Veragua (*Arcé*). | Salvin-Godman Coll. |
| *n*. ♀ ad. sk. | Santa Fé, Veragua (*Arcé*). | Sclater Coll. |
| *o*. Ad. sk. | Calobre, Veragua (*Arcé*). | Salvin-Godman Coll. |
| *p*. Ad. sk. | S. slope of Volc. of Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *q*. ♂ ad. sk. | Veragua (*Arcé*). | Purchased. |

### 12. Aulacorhamphus cyanolæmus. (Plate X.)

Aulacorhamphos cyanolæmus, *Gould*, *P. Z. S.* 1866, p. 24; *Cassin*, *Pr. Ac. Sc. Phil.* 1867, p. 121; *Scl. et Salv. Nomencl.* p. 110.

Similar to *A. cæruleigularis*, but bill black, with yellow tip to the upper mandible.

*Hab.* Western Ecuador.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | Loxa, Ecuador. | Gould Coll. (Types of the species.) |
| *c*, *d*. Ad. sk. | San Lucas, Ecuador (*Villagomez*). | Salvin-Godman Coll. |
| *e*. Ad. sk. | San Lucas, Ecuador (*Villagomez*). | Sclater Coll. |
| *f*. Ad. sk. | Ecuador. | Gould Coll. |

### 13. Aulacorhamphus atrogularis.

Pteroglossus atrogularis, *Sturm*, *Mon. Ramph.* (plate).

Aulacorhamphus atrogularis, *Gould*, *Mon. Ramph.* ed. 2, pl. 50; *Cassin*, *Pr. Ac. Sc. Phil.* 1867, p. 121; *Scl. et Salv. Nomencl.* p. 110; *Tacz. Orn. Pér.* iii. p. 159.

Above green; middle rectrices tipped with chestnut: beneath brighter; throat black; crissum dark chestnut; upper mandible yellow, with a black culminal patch and a black line along the commissure; lower mandible black; basal line to both mandibles white: whole length 13 inches, wing 5, tail 5, bill from gape 2·8.

*Hab.* Western Peru.

| | | |
|---|---|---|
| *a*. Ad. sk. | Western Peru (?). | Gould Coll. |

### 14. Aulacorhamphus dimidiatus.

Aulacorhamphus dimidiatus, *Ridgw.* *P. U. S. N. M.* ix. p. 93 (Venezuela).

Similar to *A. atrogularis*, but bill much shorter, and black stripe along the edge of the maxilla much broader.

*Hab.* Interior of Venezuela.

Only known from two specimens in the National Museum at Washington.

# Family GALBULIDÆ.

(By P. L. SCLATER.)

The *Galbulidæ* or Jacamars are a small but well-defined family of *Scansores* or Zygodactylous *Picariæ*, restricted to the Neotropical Region, over the northern portion of which they are thinly distributed, from Mexico to Southern Brazil. They do not occur in the Antillean Subregion.

The Jacamars are readily separable from the three preceding families (the *Indicatoridæ*, *Capitonidæ*, and *Rhamphastidæ*) by their nude oil-gland and the presence of cæca in the intestines. Their nearest allies are the Puff-birds (*Bucconidæ*), from which they may be distinguished by the long pointed bill, angular gonys, the presence of an after-shaft on the feathers, and by having a gular branch to the pectoral tract on the lower plumage.

The *Galbulidæ* are naturally divisible into two groups, of one of which *Jacamerops* is the sole known representative, while the five other genera belong to the typical *Galbulinæ*. The six genera of *Galbulidæ* may be diagnosed as follows:—

Subfam. I. *GALBULINÆ*.—Bill straight, lengthened, compressed, sharp; nostrils rounded, naked, with a few covering bristles; external rectrix either abnormally small or absent.

A. Tail elongated, more or less graduated.
  *a*. Middle rectrices much elongated .... 1. UROGALBA, p. 162.
  *b*. Middle rectrices slightly elongated .. 2. GALBULA, p. 163.

B. Tail short, squared.
  *c*. External rectrix absent:
    ( hind toe present ..... 3. BRACHYGALBA, p. 171.
    ( hind toe absent ..... 4. JACAMARALCYON, p. 174.
  *d*. External rectrix present ..... 5. GALBALCYRHYNCHUS, [p. 175.

Subfam. II. *JACAMEROPINÆ*.—Bill incurved, widened at the base; nostrils with an internal membrane; outer rectrix of medium size, not quite half as long as the central ..... 6. JACAMEROPS, p. 176.

Little is yet known about the nesting-habits of this family, and I have never seen a Jacamar's egg. But Mr. Kirk has recorded that in Tobago *G. ruficauda* "builds in marl-banks like the Motmot," and lays "pure white eggs, nearly circular" in shape; and Herr Euler states that *Jacamaralcyon tridactyla* "bores holes in

steep banks, no doubt for the purposes of nidification." Of *Jacamerops* Schomburgk tells us the same story; but Mr. Bartlett was informed by the Indians of Upper Amazonia that *Jacamerops* also nests in stumps of trees. It is probable that the other members of the group do not deviate from these practices.

In preparing this Catalogue I have followed very closely the arrangement put forward in my 'Monograph' of the group published in 1882*.

## Subfamily I. GALBULINÆ.

### 1. UROGALBA.

| | Type. |
|---|---|
| Urogalba, *Bp. Consp. Vol. Zyg.* p. 13 (1854) | U. paradisea. |
| Urocex, *Cab. et Hein. Mus. Hein.* iv. p. 216 (1863) | U. paradisea. |

*Urogalba* contains only the Paradise Jacamar of Guiana and its Amazonian representative, *U. amazonum*. It is easily recognizable by the great elongation of the central rectrices.

The sexes in *Urogalba* are coloured alike.

*Key to the Species.*

| | |
|---|---|
| A. Smaller: cap uniform dark brown | 1. *paradisea*, p. 162. |
| B. Larger: cap whity brown | 2. *amazonum*, p. 163. |

#### 1. Urogalba paradisea.

The Swallow-tailed Kingfisher, *Edw. Nat. Hist. B.* i. p. 10.

Galbula longicauda, *Briss. Orn.* iv. p. 89.

Alcedo paradisea, *Linn. S. N.* i. p. 181; *Gm. S. N.* i. p. 458.

Le Jacamar à longue queue, *Buff. Hist. Nat., Ois.* vii. p. 222; *id. Pl. Enl.* 271; *Aud. et Vieill. Ois. Dor.* i. *Jac.* p. 5, t. 3; *Levaill. Ois. de Par.* ii. p. 120, t. 52.

Galbula paradisea, *Lath. Ind. Orn.* i. p. 245; *Vieill. Enc. Méth.* p. 1325; *Gray et Mitch. Gen. B.* i. p. 83; *Cab. in Schomb. Guian.* iii. p. 717; *id. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309; *Gray, List Fiss. B. M.* p. 67; *Bp. Consp.* i. p. 153; *Cass. Cat. Halc.* p. 18; *Reichenb. Handb.* p. 87; *Scl. Contr. Orn.* 1852, p. 33; *id. Syn. Galb.* p. 8; *Burm. Syst. Ueb.* ii. p. 302; *Pelz. Sitz. Ak. Wien*, xx. pp. 504, 517; *id. Orn. Bras.* p. 24.

Paradise Jacamar, *Lath. Gen. Hist.* iv. p. 5.

Urogalba paradisea, *Bp. Consp. Vol. Zyg.* p. 13; *Scl. P. Z. S.* 1855, p. 14; *id. Cat. A. B.* p. 267; *id. Monogr. Jac. and Puff-bds.* p. 1, pl. i. fig. 1; *Scl. et Salv. P. Z. S.* 1867, p. 582; *id. Nomencl.* p. 105; *Salv. Ibis*, 1886, p. 62 (Brit. Guiana); *W. L. Sclater, Ibis*, 1887, p. 318 (Brit. Guiana).

Urocex paradisea, *Cab. et Hein. Mus. Hein.* iv. p. 217.

* 'A Monograph of the Jacamars and Puff-birds, or families *Galbulidæ* and *Bucconidæ*.' By P. L. Sclater. London: Porter, 1882. 1 vol. 4to.

Purplish black; back, wings, and tail washed with bronzy green; cap, sides of the head, and chin brownish; throat, under wing-coverts, inner margins of wing-feathers, and flanks white; bill and feet black: whole length 11·5 inches, wing 3·5, tail 6·5, bill from gape 2·3. *Female* similar, but rather smaller.

*Hab.* Guiana, Surinam, Cayenne, and Lower Amazonia.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Cayenne. | Sclater Coll. |
| *c*. Ad. sk. | Cayenne. | Salvin-Godman Coll. |
| *d*, *e*. ♂ ad.; *f*. ♀ ad. sk. | Merumé Mts., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *g*. ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *h*. ♂ ad. sk. | British Guiana (*W. L. Sclater*). | Sclater Coll. |
| *i*. Ad. st. | Demerara. | Purchased. |
| *k*. Ad. sk. | British Guiana. | Sclater Coll. |
| *l*. Ad. sk. | Demerara. | Salvin-Godman Coll. |
| *m*. Ad. sk. | Pernambuco, Brazil (*Craven*). | Sclater Coll. |
| *n*. ♂ ad. sk. | Barra do Rio Negro (*Wallace*). | Sclater Coll. |
| *o*. Ad. sk. | Yquitos, Peru. | Sclater Coll. |
| *p*. Ad. st. | S. America. | Purchased. |

### 2. Urogalba amazonum.

Urogalba amazonum, *Scl. P. Z. S.* 1855, p. 14; *id. Ann. Nat. Hist.* ser. 2, xvii. p. 71; *id. Monogr. Jac. and Puff-bds.* p. 5, pl. i. fig. 2; *Scl. et Salv. P. Z. S.* 1867, p. 582; *iid. Nomencl.* p. 105; *Tacz. P. Z. S.* 1882, p. 43 (N.E. Peru).
Urogalba paradisea, *Scl. P. Z. S.* 1857, p. 262.
Urogalba paradisea amazonum, *Tacz. Orn. Pér.* iii. p. 119.

Similar to *U. paradisea*, but rather larger and cap whity brown.
*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a*. Ad. sk. | Upper Amazons. | Sclater Coll. (Type of the species.) |
| *b*. Ad. sk. | Upper Amazons (*Wallace*). | Sclater Coll. |
| *c*. Ad. st. | Upper Amazons. | Gould Coll. |
| *d*. Ad. sk. | Ega, Upper Amazons (*Bates*). | Salvin-Godman Coll. |

## 2. GALBULA.

| | Type. |
|---|---|
| Galbula, *Briss. Orn.* iv. p. 85 (1760) ..... | G. viridis. |
| Caucalias, *Cab. et Hein. Mus. Hein.* iv. p. 218 (1863). | G. leucogastra. |

*Galbula* is the largest genus of the family, containing 10 species, of which 8 belong to the typical form, and 2 to the slightly aberrant subgroup *Caucalias*. The tail in *Galbula* consists of 10 regularly graduated central feathers, whilst the two external rectrices are very small, and are scarcely visible beyond the under tail-coverts.

*Galbula* is widely distributed over the Neotropical Region, from Southern Mexico to Bolivia and S.E. Brazil. It is most numerous in Amazonia, where 7 species are met with.

*Key to the Species.*

A. Belly dark rufous in both sexes (*Galbula*).
  *a*. Bill black; breast bronzy green.
    *a'*. Throat white in male, rufous in female.
      *a''*. Outer rectrices blackish ..... 1. *viridis*, p. 164.
      *b''*. Outer rectrices rufous.
        *a'''*. With black tips ..... 2. *rufo-viridis*, p. 165.
        *b'''*. Without black tips:
          { chin white ..... 3. *ruficauda*, p. 166.
          { chin black ..... 4. *melanogenia*, p. 166.
    *b'*. Throat like breast bronzy green:
      { outer rectrices rufous, with black tips .. 5. *tombacea*, p. 167.
      { outer rectrices uniform rufous ..... 6. *pastazæ*, p. 168.
  *b*. Bill yellow; breast rufous:
    { cheeks green; throat (in male) white) .. 7. *albirostris*, p. 168.
    { cheeks blue; throat rufous in both sexes. 8. *cyaneicollis*, p. 169.
B. Belly white in male, cinnamomeous in female (*Caucalias*).
    { Smaller: back and breast coppery ..... 9. *leucogastra*, p. 170.
    { Larger: back and breast purplish ..... 10. *chalcothorax*, p. 171.

## 1. Galbula viridis.

The Jacamaciri of Marcgrave, *Edw. Glean. Nat. Hist.* iii. p. 261, pl. 334.

Alcedo galbula, *Linn. S. N.* i. p. 182; *Gmel. S. N.* i. p. 459.

Le Jacamar proprement dit, *Buff. Hist. Nat., Ois.* vii. p. 220; *id. Pl. Enl.* 238.

Galbula viridis, *Lath. Ind. Orn.* i. p. 244; *Vieill. Enc. Méth.* p. 1326; *Gray et Mitch. Gen. B.* i. p. 83; *Gray, List Fiss. B. M.* p. 66; *Bp. Consp.* i. p. 152; *id. Consp. Vol. Zyg.* p. 13; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308; *Reichenb. Handb.* p. 85; *Scl. Contr. Orn.* 1852, p. 29; *id. Syn. Galb.* p. 2; *id. P. Z. S.* 1855, p. 13; *id. Cat. A. B.* p. 265; *id. Monogr. Jac. and Puff-bds.* p. 7, pl. ii.; *Cass. Cat. Hale.* p. 17; *Pelz. Sitz. Ak. Wien*, xx. p. 516; *id. Orn. Bras.* p. 24; *Cab. et Hein. Mus. Hein.* iv. p. 219; *Scl. et Salv. P. Z. S.* 1867, p. 581; *iid. Nomencl.* p. 104; *Salv. Ibis*, 1886, p. 61 (Brit. Guiana).

Le Jacamar, *Aud. et Vieill. Ois. Dor.* i. *Jac.* t. 1 (♂); *Levaill. Ois. de Par.* ii. pp. 111, 112, tt. 47, 48.

Le Jacamar à gorge rousse, *Aud. et Vieill. Ois. Dor.* i. *Jac.* t. 2 (♀).

Galbula rubricollis, *Steph. Gen. Zool.* ix. p. 224.

Green Jacamar, *Lath. Gen. Hist.* iv. p. 2.

Galbula viridicauda, *Sw. An. in Menag.* p. 327; *Cab. in Schomb. Guian.* iii. p. 717; *id. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308.

"Galbula quadricolor, *Verr.*," *Bp. Consp. Vol. Zyg.* p. 13.

Above coppery green, cap more bluish; wings blackish; coverts and edges of secondaries green like the back; throat white; pectoral band bright green; belly and under wing-coverts chestnut; tail above bluish coppery green, beneath blackish; bill black: whole length 7·8 inches, wing 3, tail 3, bill from gape 1·9. *Female* similar, but throat rufous and belly lighter chestnut.

*Hab.* Guiana, Surinam, Cayenne, Lower Amazonia, and Venezuela.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | British Guiana. | Sir R. Schomburgk [C.]. |
| *c*, *d*. ♂ ♀ ad. sk. | Cayenne. | Sclater Coll. |
| *e*. ♂ ad. sk. | Cayenne. | Riocour Coll. |
| *f*. ♂ ad. sk. | Cayenne. | Salvin-Godman Coll. |
| *g*. ♂ ad. sk. | Lower Amazons (*Wallace*). | Sclater Coll. |
| *h*. ♂ ad.; *i*, *k*. ♀ ad. sk. | N. side of Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *l*. ♂ ad. st. | Peru (?). | Purchased. (Type of *G. quadricolor*.) |
| *m*. Jr. st. | S. America. | Purchased. |

## 2. Galbula rufo-viridis.

Galbula viridis, *Max. Beitr.* iv. p. 436; *Burm. Syst. Ueb.* ii. p. 299.
Galbula ruficauda, *Sw. An. in Menag.* p. 327; *Gray et Mitch. Gen. B.* i. p. 83; *Gray, List Fiss. B. M.* p. 66; *Reichenb. Handb.* p. 86; *Burm. Syst. Ueb.* ii. p. 300.
Galbula rufo-viridis, *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308; *Scl. P. Z. S.* 1855, p. 13; *id. Cat. A. B.* p. 266; *id. Monogr. Jac. and Puff-bds.* p. 11, pl. iii.; *Cab. et Hein. Mus. Hein.* iv. p. 220; *Scl. et Salv. P. Z. S.* 1867, p. 581, 1879, p. 633; *iid. Nomenecl.* p. 104; *Rein. Fuglef. Bras. Camp.* p. 122; *Berl. J. f. O.* 1884, p. 318 (Bucaramanga).
Galbula maculicauda, *Scl. Contr. Orn.* 1852, p. 29; *id. Syn. Galb.* p. 2; *Cass. Cat. Halc.* p. 17; *Bp. Consp. Vol. Zyg.* p. 13; *Pelz. Sitz. Ak. Wien*, xx. p. 516; *id. Orn. Bras.* p. 24.

Above coppery green; wings blackish, coverts and edges of secondaries like the back: beneath, throat white; pectoral band bright green: belly and under wing-coverts chestnut; middle tail-feathers green, the lateral chestnut, second and third pairs tipped with greenish brown; bill black: whole length 9 inches, wing 3·2, tail 3·8, bill from gape 2·1. *Female* similar, but throat pale rufous and belly paler.

*Hab.* S.E. Brazil and Bolivia.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Rio Tocantins, Amazonia (*Wallace*). | Salvin-Godman Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Pernambuco, Brazil (*Forbes*). | Salvin-Godman Coll. |
| *d*. ♂ ad.; *e*, *f*. ♀ ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | Bahia, Brazil. | Tweeddale Coll. |
| *i*, *k*. ♂ ♀ ad. sk. | Novo Fribourgo, Brazil (*Youds*). | Salvin-Godman Coll. |
| *l*. ♂ ad. st. | S.E. Brazil. | Purchased. |
| *m*. ♂ ad. sk. | S.E. Brazil. | Sclater Coll. (Type of *G. maculicauda*.) |
| *n*, *o*. ♂ ♀ ad. sk. | Rio Claro, Goyaz, Brazil. | Salvin-Godman Coll. |
| *p*, *q*. ♂ ♀ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |
| *r*, *s*. ♂ ♀ ad. sk. | Bolivia. | Sclater Coll. |
| *t*. ♂ ad. sk. | Bolivia. | T. Bridges [C.]. |
| *u*. ♂ ad. st. | Bolivia. | T. Bridges [C.]. |

### 3. Galbula ruficauda.

Galbula viridis, var. β, *Lath. Ind. Orn.* i. p. 244.
Le Jacamar à queue rousse, *Levaill. Ois. de. Par.* ii. p. 115, t. 50.
Galbula ruficauda, *Cuv. Règne An.* i. p. 420; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308; *Scl. Contr. Orn.* 1852, p. 30; *id. Syn. Galb.* p. 3; *id. P. Z. S.* 1855, pp. 13, 136; *id. Cat. A. B.* p. 266; *id. Monogr. Jac. and Puff-bds.* p. 15, pl. iv.; *Cass. Cat. Halc.* p. 17; *Bp. Consp. Vol. Zyg.* p. 13; *Pelz. Sitz. Ak. Wien*, xx. p. 516; *id. Orn. Bras.* p. 24; *Cab. et Hein. Mus. Hein.* iv. p. 222; *Léot. Ois. Trin.* p. 116; *Scl. et Salv. P. Z. S.* 1868, p. 168, 1879, p. 535; *iid. Nomencl.* p. 104; *Salv. Ibis*, 1886, p. 61 (Brit. Guiana).
Galbula macroura, *Vieill. Enc. Méth.* p. 1326; *id. Gal. Ois.* i. pt. 2, p. 12, t. 29; *Gray, List Fiss. B. M.* p. 66; *Reichenb. Handb.* p. 86; *Burm. Syst. Ueb.* ii. p. 300.
Rufous-tailed Jacamar, *Lath. Gen. Hist.* iv. p. 4.
Galbula leptura, *Sw. An. in Menag.* p. 327; *Jard. Ann. Nat. Hist.* xix. p. 80; *Gray et Mitch. Gen. B.* i. p. 83; *Cab. in Schomb. Guian.* iii. p. 717; *Gray, List Fiss. B. M.* p. 66; *Bp. Consp.* i. p. 152.

Above golden green; wings blackish, coverts and edges of secondaries like the back; throat and chin white; breast-band green; belly and under wing-coverts chestnut; tail chestnut, except two middle rectrices like the back; bill black: whole length 10 inches, wing 3·3, tail 4·6, bill from gape 2·8. *Female* similar, but throat pale rufous and belly paler chestnut.

*Hab.* Colombia, Venezuela, Trinidad, Tobago, and Guiana.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Remedios, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *b.* ♂ ad. sk. | Medellin, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *c.* ♀ ad. sk. | Valle Dupar, S. Marta, U. S. C. (*Simons*). | Salvin-Godman Coll. |
| *d.* ♀ ad. sk. | Santa Marta (*Simons*). | Salvin-Godman Coll. |
| *e.* ♂ ad. sk. | Bogota. | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Bogota. | Sclater Coll. |
| *g.* ♂ ad. sk. | Carupano, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *h.* ♀ ad. sk. | Venezuela (*Goering*). | Salvin-Godman Coll. |
| *i, k.* ♂ ♀ ad. sk. | Trinidad. | Sclater Coll. |
| *l, m.* ♂ ♀ ad. sk. | Tobago (*Kirk*). | Sclater Coll. |
| *n.* ♂ ad. sk. | Guiana (*Brown*). | Sclater Coll. |
| *o, p.* ♂ ♀ ad. st. | S. America. | Gould Coll. |

### 4. Galbula melanogenia.

Galbula melanogenia, *Scl. Contr. Orn.* 1852, p. 61, pl. 90; *id. Syn. Galb.* p. 3; *id. P. Z. S.* 1855, p. 13, 1856, p. 139, 1858, p. 357, 1859, p. 53; *id. Cat. A. B.* p. 266; *id. Monogr. Jac. and Puff-bds.* p. 19, pl. v.; *Scl. et Salv. Ibis*, 1859, p. 131, 1860, p. 40; *iid. P. Z. S.* 1870, p. 837; *iid. Nomencl.* p. 104; *Taylor, Ibis*, 1860, p. 116; *Cab. et Hein. Mus. Hein.* iv. p. 221; *Salv. P. Z. S.* 1867, p. 151, et 1870, p. 201; *id. Ibis*, 1872, p. 321; *Frantz. J. f. O.* 1869, p. 311; *Berl. et Tacz. P. Z. S.* 1883, p. 572, et 1885, pp. 68, 123 (Ecuador); *Nutting, P. U. S. N. M.* v. p. 401 (Costa Rica), et vi. p. 407 (Nicaragua); *Ridgw. P. U. S. N. M.* x. p. 591 (Honduras).

Above golden green; wings black, coverts and edges of secondaries like the back: beneath, chin black, throat white; breast-band green, belly and under wing-coverts chestnut; tail with four middle rectrices green, the rest chestnut; bill black: whole length 9 inches, wing 3·3, tail 4, bill from gape 2·3. *Female* similar, but throat pale rufous, and belly rather lighter in colour.

*Hab.* S. Mexico, Central America, and Western Ecuador.

The black chin and the four green middle tail-feathers distinguish this species from *G. ruficauda*.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Belize (*Blancaneux*). | Salvin-Godman Coll. |
| *c, d.* ♂ ♀ ad. sk. | Teleman, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *e.* ♂ ad. sk. | Sources of R. de la Pasion, Vera Paz (*Salvin*). | Tweeddale Coll. |
| *f.* ♀ ad. sk. | Choctum, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *g.* Jr. sk. | Chisec, Vera Paz (*Salvin*). | Tweeddale Coll. |
| *h, i.* ♂ ♀ ad. sk. | Vera Paz (*Delattre*). | Sclater Coll. (Types of the species.) |
| *k, l.* ♂ ♀ ad. sk. | Guatemala. | O. Salvin, Esq. [P.]. |
| *m.* ♂ ad. sk. | San Pedro, Honduras (*Whitely*). | Salvin-Godman Coll. |
| *n.* ♂ ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *o, p.* ♀ ad. sk. | Bebedero, Nicoya, Costa Rica (*Arcé*). | Salvin-Godman Coll. |
| *q.* ♀ ad. sk. | Angostura, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *r, s.* ♂ ad.; *t.* ♀ ad. sk. | Bugaba, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *u, v.* ♂ ♀ ad. sk. | Veragua (*Arcé*). | Sclater Coll. |
| *w, x.* ♂ ♀ ad. sk. | Balzar Mts., Ecuador (*Illingworth*). | Salvin-Godman Coll. |

### 5. Galbula tombacea.

Galbula tombacea, *Spix, Av. Bras.* i. p. 55, t. 58; *Gray et Mitch. Gen. B.* i. p. 83; *Bp. Consp.* i. p. 152; *id. Consp. Vol. Zyg.* p. 13; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308; *Cass. Cat. Halc.* p. 17; *Scl. Contr. Orn.* 1852, p. 30; *id. Syn. Galb.* p. 4; *id. P. Z. S.* 1855, p. 13, 1857, p. 262; *id. Cat. A. B.* p. 266; *id. Monogr. Jac. and Puff-bds.* p. 23, pl. vi.; *Reichenb. Handb.* p. 87; *Tsch. Faun. Per., Aves*, p. 255; *Burm. Syst. Ueb.* ii. p. 301; *Cab. et Hein. Mus. Hein.* iv. p. 223; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, p. 978, 1873, pp. 186, 294; *id. Nomencl.* p. 105; *Tacz. P. Z. S.* 1874, p. 547 (C. Peru); *id. Orn. Pér.* iii. p. 115.

Galbula cyanescens, *Deville, Rev. Zool.* 1849, p. 56; *Cass. Cat. Halc.* p. 17; *Reichenb. Handb.* p. 87; *Cab. et Hein. Mus. Hein.* iv. p. 223.

Galbula fuscicapilla, *Scl. P. Z. S.* 1855, pp. 13, 136, pl. lxxvii.; *Cab. et Hein. Mus. Hein.* iv. p. 223.

Above shining green, cap in some examples more or less fuscous; wings blackish, coverts and edges of secondaries like the back: beneath, chin brownish, throat and breast shining green, belly chestnut; four central tail-feathers green, lateral tail-feathers chestnut, first normal pair slightly tipped with blackish: whole

length 8·5 inches, wing 3, tail 3·5, bill from gape 1·8. *Female* similar, but belly paler.

*Hab.* Colombia, Ecuador, and Upper Amazonia.

| | | |
|---|---|---|
| *a.* Ad. st. | Bogota. | Purchased. |
| *b, c.* ♂ ♀ ad. sk. | Bogota. | Sclater Coll. |
| *d, e.* ♂ ♀ ad. sk. | Bogota. | Salvin-Godman Coll. |
| *f.* ♀ ad. sk. | Bogota. | Purchased. |
| *g, h.* ♂ ♀ ad. sk. | Pebas, Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *i, k.* ♂ ad. sk. | Rio Javari (*Bates*). | Sclater Coll. |
| *l.* ♂ ad. sk. | Upper Amazons. | Purchased. |
| *m.* ♂ ad. sk. | Nauta, E. Peru (*Bartlett*). | Sclater Coll. |
| *n.* ♂ ad. sk. | Nauta, E. Peru. | E. Bartlett [C.]. |
| *o, p.* ♂ ♀ ad. sk. | Cosnipata, Peru (*Whitely*). | Salvin-Godman Coll. |
| *q.* ♀ ad. sk. | Elvira, E. Peru (*Bartlett*). | Sclater Coll. |
| *r.* ♂ ad. sk. | E. Peru (*Farris*). | Sclater Coll. |
| *s.* ♂ ad. sk. | E. Peru (*Farris*). | Salvin-Godman Coll. |

### 6. Galbula pastazæ.

Galbula pastazæ, *Tacz. et Berl. P. Z. S.* 1885, p. 107 (Ecuador).

"Similar to *G. tombacea*, but larger; back green, not coppery; abdomen deep rufous, not ochraceous; lateral rectrices wholly cinnamomeous."

*Hab.* Eastern Ecuador.

I have not sufficient material to enable me to form an opinion on this species. The single specimen received from the Warsaw Museum, and marked "*Galbula pastazæ*" does not quite agree with the characters assigned to the species.

| | | |
|---|---|---|
| (?) *a.* ♀ jr. sk. | Mapoto, Ecuador (*Stolzmann*). | Sclater Coll. |

### 7. Galbula albirostris.

White-billed Jacamar, *Lath. Syn. Suppl.* i. p. 113; *id. Gen. Hist.* iv. p. 6.

Galbula albirostris, *Lath. Ind. Orn.* i. p. 245; *Gray et Mitch. Gen. B.* i. p. 83; *Gray, List Fiss. B. M.* p. 67; *Bp. Consp.* i. p. 152; *id. Consp. Vol. Zyg.* p. 13; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 308; *Cass. Cat. Halc.* p. 17; *Reichenb. Handb.* p. 85; *Scl. Contr. Orn.* 1852, p. 31; *id. Syn. Galb.* p. 5; *id. P. Z. S.* 1855, p. 14; *id. Cat. A. B.* p. 266; *id. Monogr. Jac. and Puff-bds.* p. 27, pl. vii.; *Cab. et Hein. Mus. Hein.* iv. p. 225; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, pp. 582, 751, 1873, p. 294; *iid. Nomencl.* p. 105; *Tacz. P. Z. S.* 1882, p. 43 (N.E. Peru); *id. Orn. Pér.* iii. p. 116; *Salv. Ibis*, 1886, p. 61 (Brit. Guiana); *W. L. Sclater, Ibis*, 1887, p. 318 (Brit. Guiana).

Le Venetou, *Aud. et Vieill. Ois. Dor.* i. *Jac.* pp. 6, 7, tt. iv., v.

Le petit Jacamar ou Jac. à bec jaune, *Levaill. Ois. de Par.* ii. p. 118, t. 51.

Galbula flavirostris, *Vieill. Nouv. Dict.* xvi. p. 443; *id. Enc. Méth.* p. 1326; *Sw. An. in Menag.* p. 328; *Cab. in Schomb. Guian.* iii. p. 717.

Galbula chalcocephala, *Deville, Rev. Zool.* 1849, p. 55; *Des Murs, Zool. Exp. de Castelnau, Ois.* p. 31, t. 9. fig. 2; *Pelz. Sitz. Ak. Wien*, xx. p. 517; *id. Orn. Bras.* p. 24; *Cab. et Hein. Mus. Hein.* iv. p. 224; *Tacz. Orn. Pér.* iii. p. 117.

Above bronzy green; cap coppery red; wings and tail blackish, coverts and edges of secondaries like the back: beneath dark chestnut, chin rufous, broad band across the throat white; tail rufous with slight blackish tips to the external rectrices, two middle tail-feathers above like the back; bill yellow, upper portion of upper mandible black: whole length 7 inches, wing 2·7, tail 2·5, bill 1·6. *Female* similar, but without any white on the throat.

*Hab.* Guiana, Amazonia, and Eastern Ecuador.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad. st. | Demerara. | Purchased. |
| *c*, *d*. ♂ ♀ ad. sk. | Bartica Grove, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e*, *f*. ♂ ♀ ad.; *g*. Jr. sk. | Merumé Mts., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *h*. ♂ ad. sk. | Roraima, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *i*, *k*. ♂ ♀ ad. sk. | British Guiana (*W. L. Sclater*). | Sclater Coll. |
| *l*. ♂ ad. sk. | Guiana (*Brown*). | Sclater Coll. |
| *m*. ♀ ad. st. | Barra, Rio Negro (*Wallace*). | Purchased. |
| *n*. ♂ ad. sk. | Guia, Rio Negro (*Wallace*). | Sclater Coll. |
| *o*, *p*. ♂ ♀ ad. sk. | Guia, Rio Negro (*Wallace*). | A. R. Wallace [C.]. |
| *q*, *r*. ♂ ♀ ad. sk. | Yquitos, Peru (*Whitely*). | Sclater Coll. |
| *s*. ♀ ad. sk. | Yquitos, Peru (*Whitely*). | Salvin-Godman Coll. |
| *t*, *u*. ♂ ♀ ad. sk. | Yquitos, Peru (*Whitely*). | H. Whitely [C.]. |
| *v*, *w*. ♂ ♀ ad. sk. | Chamicuros, E. Peru (*Bartlett*). | Sclater Coll. |
| *x*. ♂ ad. sk. | Xeberos, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *y*, *z*. ♂ ♀ ad. sk. | Peruvian Amazons. | Sclater Coll. |
| *a'*. ♂ jr. sk. | Peruvian Amazons. | Purchased. |
| *b'*. ♂ ad. st. | Peruvian Amazons (*Bates*). | Purchased. |
| *c'*, *d'*. ♂ ♀ ad. sk. | Rio Napo, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *e'*. ♂ jr. sk. | Rio Napo, Ecuador. | Gould Coll. |

## 8. Galbula cyaneicollis.

Le Jacamar jeune âge, *Levaill. Ois. de Par.* ii. p. 113, t. 49 (?).

Galbula cyaneicollis, *Cass. Proc. Ac. Sci. Philad.* v. p. 154, t. 7; *id. Cat. Hale.* p. 18; *Scl. Contr. Orn.* 1852, p. 31; *id. Syn. Galb.* p. 6; *id. P. Z. S.* 1855, p. 14; *id. Cat. A. B.* p. 267; *id. Monogr. Jac. and Puff-bds.* p. 31, pl. viii.; *Pelz. Sitz. Ak. Wien*, xx. p. 517; *Scl. et Salv. P. Z. S.* 1867, p. 582; *iid. Nomencl.* p. 105.

Galbula cyanopogon, *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309; *Cab. et Hein. Mus. Hein.* iv. p. 224.

Galbula albirostris, *Burm. Syst. Ueb.* ii. p. 301.

Galbula cyanocephala, *Licht. MS.* (*teste Cab. et Hein. Mus. Hein.* iv. p. 225).

Above bronzy green; cap and sides of the head blackish mixed with purple; wings blackish, coverts and edges of secondaries like

the back: beneath dark chestnut, cheeks and sides of the neck shining bluish green; tail rufous, two middle rectrices like the back, the others more or less edged with greenish; bill yellow, apical half of upper mandible black: whole length 7·8 inches, wing 3·1, tail 3·1, bill from gape 1·8. *Female* similar, but paler beneath.

*Hab.* Lower Amazonia and R. Madeira.

Closely allied to *G. albirostris*, but recognizable by its blue cheeks, and by the absence of the white throat-band in the male.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.: *c*. ad. st. | Lower Amazons. | A. R. Wallace [C.]. |
| *d*. ♂ ad. sk. | Para (*Wallace*). | Sclater Coll. |
| *e*. ♂ ad. sk. | Capim R. (*Wallace*). | Sclater Coll. |

### 9. Galbula leucogastra.

Le Jacamar à ventre blanc, *Levaill. Prom. et Guép., Suppl.* p. 46, t. II.

Galbula leucogastra, *Vieill. Nouv. Dict.* xvi. p. 444; *id. Enc. Méth.* p. 1326; *Gray et Mitch. Gen. B.* i. p. 83; *Gray, List Fiss. B. M.* p. 67: *Bp. Consp.* i. p. 152: *id. Consp. Vol. Zyg.* p. 13; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309; *Cass. Cat. Halc.* p. 18; *Reichenb. Handb.* p. 87: *Scl. Contr. Orn.* 1852, p. 32; *id. Syn. Galb.* p. 6; *id. P. Z. S.* 1855, p. 14; *id. Cat. A. B.* p. 267; *id. Monogr. Jac. and Puff-bds.* p. 33, pl. ix.; *Pelz. Sitz. Ak. Wien*, xx. p. 517; *id. Orn. Bras.* p. 24; *Scl. et Salv. P. Z. S.* 1867, p. 582; *iid. Nomencl.* p. 105: *Salv. Ibis*, 1886, p. 62 (Brit. Guiana).

Galbula albiventris, *Cuv. Règn. An.* i. p. 448 (1829); *Sw. An. in Menag.* p. 328; *Gray et Mitch. Gen. B.* i. p. 83, t. xxix.; *Cab. in Schomb. Guian.* iii. p. 717.

Galbula ænea, *Temm. MS., teste Bp. Consp.* i. p. 152.

Caucalias leucogaster, *Cab. et Hein. Mus. Hein.* iv. p. 218.

Above golden green much mixed with coppery; cap bluish; wings and tail blackish, coverts and edgings of secondaries like the back: beneath, throat white, breast coppery green like the back, belly white; tail above bluish green, beneath slaty: bill black: whole length 7·5 inches, wing 2·9, tail 3·1, bill from gape 1·7. *Female* similar, but throat and belly pale ochraceous.

*Hab.* Guiana, Cayenne, and Lower Amazonia.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*. ♀ ad. sk. | Merumé Mts., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Cayenne. | Salvin-Godman Coll. |
| *e*. ♂ ad. sk. | Cayenne. | Purchased. |
| *f*. ♀ ad. sk. | Guia, Upper Rio Negro (*Wallace*). | Salvin-Godman Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | Rio Negro (*Wallace*). | Sclater Coll. |
| . Ad. st. | Amazons. | A. R. Wallace [C.]. |
| *k*. Ad. st. | Demerara. | Purchased. |

### 10. Galbula chalcothorax.

Galbula chalcothorax, *Scl. P. Z. S.* 1854, p. 110, 1855, p. 14; *id. Monogr. Jac. and Puff-bds.* p. 37, pl. x.; *Scl. et Salv. Nomencl.* p. 105; *Bartl. P. Z. S.* 1882, p. 374 (E. Peru); *Tacz. Orn. Pér.* iii. p. 118.

Galbula leucogastra, *Scl. P. Z. S.* 1858, p. 61 (Rio Napo); *Scl. et Salv. P. Z. S.* 1867, p. 978 (Upper Amazonia); *Tacz. P. Z. S.* 1874, p. 548.

Caucalias chalcothorax, *Cab. et Hein. Mus. Hein.* iv. p. 218.

Similar to *G. leucogastra*, but rather larger in size, and with the back and breast deep bronzy purplish.

*Hab.* Eastern Ecuador and Amazonia.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Rio Napo, Ecuador. | Gould Coll. |
| *b*. ♂ ad. sk. | Quixos, Ecuador (*Gould*). | Sclater Coll. (Type of the species.) |
| *c*. ♂ ad. sk. | Quixos, Ecuador (*Gould*). | Salvin-Godman Coll. |
| *d*, *e*. ♂ ♀ ad.: *f*. Jr. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *g*. ♂ ad. sk. | Pebas, E. Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *h*. ♀ ad. sk. | Elvira, E. Peru (*Bartlett*). | Sclater Coll. |

## 3. BRACHYGALBA.

| | Type. |
|---|---|
| Brachygalba, *Bp. Consp. Vol. Zyg.* p. 13 (1854)..... | B. albigularis. |
| Brachycex, *Cab. et Hein. Mus. Hein.* iv. p. 214 (1863) | B. lugubris. |

This little group has the general form of *Galbula*, but the birds are of smaller size, the tail is shorter and square, and the outer pair of rectrices (abnormally small in *Galbula*) is altogether absent. The feet are weaker, and the first toe is small.

The six species of this genus are spread over Colombia, Guiana, and Amazonia.

*Key to the Species.*

A. Bill black.
  *a*. Throat brown:
    belly white ..... 1. *lugubris*, p. 171.
    belly fulvous ..... 2. *fulviventris*, p. 172.
  *b*. Throat white:
    cap and breast-band brown..... 3. *goeringi*, p. 172.
    cap and breast-band green ..... 4. *salmoni*, p. 173.
B. Bill white:
    cheeks white like the throat ..... 5. *albigularis*, p. 173.
    cheeks brown like the cap ..... 6. *melanosterna*, p. 174.

### 1. Brachygalba lugubris.

Galbula lugubris, *Sw. An. in Menag.* p. 329; *Gray et Mitch. Gen. B.* i. p. 83; *Cab. in Schomb. Guian.* iii. p. 718; *id. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309.

Jacamaralcyon lugubris, *Gray, List Fiss. B. M.* p. 67; *Reichenb. Handb.* p. 84.

Galbula inornata, *Scl. Contr. Orn.* 1852, p. 32; *id. Syn. Galb.* p. 7; *Pelz. Sitz. Ak. Wien*, xx. p. 518; *id. Orn. Bras.* p. 24.

Jacamaralcyon inornata, *Cass. Cat. Hale.* p. 18.
Galbula chalcoptera, *Reichenb. Handb.* p. 84.
Brachygalba inornata, *Scl. P. Z. S.* 1855, p. 15; *id. Cat. A. B.* p. 267; *Scl. et Salv. Nomencl.* p. 105; *Tacz. Orn. Pér.* iii. p. 120.
"Galbula tristis, *Natt. MS.*," *teste Pelz. Sitz. Ak. Wien*, xx. p. 518.
Brachycex lugubris, *Cab. et Hein. Mus. Hein.* iv. p. 215.
Brachygalba lugubris, *Scl. Monogr. Jac. and Puff-bds.* p. 39, pl. xi. (fig. dextra); *Salv. Ibis*, 1886, p. 62 (Brit. Guiana).

Above blackish brown, wings and tail washed with bronzy green: beneath similar, throat brownish; middle of breast and belly pure white; crissum and flanks black; blotch at the base of the wing-feathers underneath white; bill black: whole length 7 inches, wing 2·6, tail 2, bill from gape 1·8. *Female* similar.

*Hab.* Guiana, Lower Amazonia, and Colombia.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | British Guiana. | Sir R. Schomburgk [C.]. |
| *b, c.* ♂ ad.; *d.* ♀ ad. sk. | Merumé Mts., Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e, f.* ♂ ♀ ad. sk. | Merumé Mts., Brit. Guiana (*Whitely*). | Sclater Coll. |
| *g, h.* ♂ ad.; *i, k.* ♀ ad. sk. | Roraima, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | British Guiana (*Brown*). | Sclater Coll. |
| *m, n.* ♂ ad. sk. | Pebas, E. Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *o.* ♂ ad. sk. | Rio Tocantins (*Wallace*). | Sclater Coll. |
| *p.* Ad. sk. | Amazons (?). | Sclater Coll. (Type of *Galbula inornata*.) |
| *q.* Ad. sk. | Bogota. | Sclater Coll. |
| *r.* Ad. st. | S. America. | Purchased. |

### 2. Brachygalba fulviventris.

Brachygalba lugubris, *Scl. Monogr. Jac. and Puff-bds.* p. 39, pl. xi. (fig. sinistra).

Similar to *B. lugubris*, but middle of belly fulvous.

*Hab.* Colombia and E. Ecuador.

So far as I can now make out, the rufous-bellied form of *B. lugubris* from Colombia and Eastern Ecuador must belong to a separate species, which I propose to call *B. fulviventris*.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Bogota. | Sclater Coll. (Type of the species.) |
| *b.* Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *c.* Ad. sk. | Rio Napo, Ecuador. | Sclater Coll. |
| *d, e.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Ecuador. | Salvin-Godman Coll. |

### 3. Brachygalba goeringi.

Brachygalba goeringi, *Scl. et Salv. P. Z. S.* 1869, p. 253, pl. xviii.; *iid. Nomencl.* p. 105; *Scl. Monogr. Jac. and Puff-bds.* p. 41, pl. xii.
"Brachygalba lugubris (*Sw.*)," *Lawr. Ann. Lyc. N. Y.* ix. p. 274.

Above bronzy green; wings brownish black, coverts and outer secondaries with edgings like the back: cap and upper neck brown; superciliaries broader behind, and nape fulvous: beneath, throat white; breast blackish; belly and crissum pure white: flanks black; bill and feet black: whole length 7 inches, wing 2·75, tail 2·3, bill from gape 2. *Female* similar, but middle of belly ferruginous.

*Hab.* Venezuela.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. sk. | Lake of Valencia, Venezuela (*Goering*). | Sclater Coll. (Types of the species.) |
| *c*. ♂ ♀ ad.; *d*. Ad. sk. | Lake of Valencia, Venezuela (*Goering*). | Salvin-Godman Coll. |

### 4. Brachygalba salmoni.

Brachygalba salmoni, *Scl. et Salv. P. Z. S.* 1879, p. 535 (Antioquia); *Scl. Monogr. Jac. and Puff-bds.* p. 43, pl. xiii.

Bronzy green, cap shaded with brown; throat and inner webs of the wing-feathers at the base white; middle of belly and crissum ferruginous; bill black; feet brown: whole length 7·2 inches, wing 2·8, tail 2·3. *Female* similar, but throat pale fulvous.

*Hab.* State of Antioquia, Colombia.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Rio Nichi, Antioquia, U. S. C. (*Salmon*). | Sclater Coll. |
| *b*. ♂ ad. sk. | Rio Nichi, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. (Types of the species.) |

### 5. Brachygalba albigularis.

Galbula albigularis, *Spix, Av. Bras.* i. p. 54, t. 57. fig. 1; *Gray et Mitch. Gen. B.* i. p. 83; *Bp. Consp.* i. p. 152; *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309; *Reichenb. Handb.* p. 84; *Burm. Syst. Ueb.* ii. p. 302.

Brachygalba albigularis, *Bp. Consp. Vol. Zyg.* p. 13; *Scl. P. Z. S.* 1857, p. 262; *id. Cat. A. B.* p. 267; *id. Mongr. Jac. and Puff-bds.* p. 45, pl. xiv.; *Scl. et Salv. Nomencl.* p. 105; *Tacz. Orn. Per.* iii. p. 119.

Brachycex albogularis, *Cab. et Hein. Mus. Hein.* iv. p. 215.

Smoky brown; back, edgings of wings except primaries, and margins of tail bronzy green; eyebrows, sides of head, and throat white; blotch in the middle of belly dark ferruginous; inner webs of wing-feathers banded with white at the base; bill white; feet black: whole length 6·2 inches, wing 2·7, tail 2·1, bill from gape 2·4.

*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a*. Ad. sk. | Rio Javari, Upper Amazons (*Bates*). | Sclater Coll. |
| *b*. Ad. sk. | Rio Javari, Upper Amazons (*Bates*). | Purchased. |

### 6. Brachygalba melanosterna.

Jacamar à ventre blanc, "Galbula albiventris, *Levaill.*," *Less. Tr. d'Orn.* p. 234.
Galbula albiventris, *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 309.
Brachygalba albiventer, *Bp. Consp. Vol. Zyg.* p. 13.
Brachygalba melanosterna, *Scl. P. Z. S.* 1855, p. 15; *id. Monogr. Jac. and Puff-bds.* p. 47, pl. xv.; *Scl. et Salv. Nomencl.* p. 105.
Galbula (Brachygalba) melanosterna, *Pelz. Sitz. Ak. Wien*, xx. p. 518; *id. Orn. Bras.* p. 24.
"Galbula lugubris, *Natt. MS.*," *teste Pelz. Sitz. Ak. Wien*, xx. p. 518.
Brachycex melanosterna, *Cab. et Hein. Mus. Hein.* iv. p. 214.
Brachycex albiventris, *Cab. et Hein. Mus. Hein.* iv. p. 215.
Galbula melanosterna, *Reinh. Fuglef. Bras. Camp.* p. 123.

Above smoky brown; middle of back, wings, and tail margined with bronzy green: beneath black; throat white; middle of belly pure white; inner webs of wing-feathers at the base white; bill white; feet brown: whole length 6·1 inches, wing 2·9, tail 2·2, bill from gape 1·9. *Female* similar.

*Hab.* Inner Brazil and adjoining parts of Bolivia.

The smoky-brown cheeks and the absence of the white superciliaries at once distinguish this species from *B. albirostris*.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Rio Parana, Brazil (*Natterer*). | Sclater Coll. |
| *b, c.* ♀ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |
| *d.* ♂ ad. sk. | Bolivia. | Sclater Coll. |

## 4. JACAMARALCYON.

| | Type. |
|---|---|
| Jacamaralcyon, *Less. Tr. d'Orn.* p. 235 (1831)..... | J. tridactyla. |
| Cauax, *Cab. in Wiegm. Arch.* 1847, i. p. 347..... | J. tridactyla. |

The total absence of the hind toe at once distinguishes this genus from *Brachygalba*, which it otherwise generally resembles excepting in having a rather longer tail.

This type is restricted to S.E. Brazil.

### 1. Jacamaralcyon tridactyla.

Le Jacamaralcion, *Levaill. Prom. et Guép., Suppl.* p. 51, t. 1.
Galbula tridactyla, *Vieill. Nouv. Dict.* xvi. p. 445; *id. Enc. Méth.* p. 1327; *Licht. Doubl.* p. 12; *Spix, Av. Bras.* i. p. 55, t. 57. fig. 2; *Gray et Mitch. Gen. B.* i. p. 83; *Pelz. Sitz. Ak. Wien*, xx. p. 518; *id. Orn. Bras.* p. 25; *Euler, J. f. O.* 1867, p. 221.
Galbula ceycoides, *Such, Zool. Journ.* ii. p. 112; *Jard. et Selb. Ill. Orn.* i. t. 22.
Jacamaralcyon brasiliensis, *Less. Tr. d'Orn.* p. 235.
Galbula armata, *Sw. An. in Menag.* p. 328.
Cauax tridactylus, *Cab. in Wiegm. Arch.* 1847, i. p. 347; *id. in Ersch u. Grub. Enc.* sect. 1, lii. p. 310; *id. J. f. O.* 1874, p. 227; *Cab. et Hein. Mus. Hein.* iv. p. 213.
Jacamaralcyon tridactyla, *Gray, List Fiss. B. M.* p. 67; *Bp. Consp.* i. p. 153; *id. Consp. Vol. Zyg.* p. 14; *Reichenb. Handb.* p. 83;

*Scl. Syn. Galb.* p. 8; *id. P. Z. S.* 1855, p. 16; *id. Monogr. Jac. and Puff-bds.* p. 49, pl. xvi.; *Cass. Cat. Halc.* p. 18; *Reinh. Fuglef. Bras. Camp.* p. 123; *Scl. et Salv. Nomencl.* p. 105.

Above slaty black, strongly suffused with bronzy green; cap smoky brown, striated with pale fulvous: beneath rather paler; throat black; chin and sides of the head striated with pale fulvous like the cap; middle of breast and belly pure white; inner webs of wing-feathers white; bill black; feet dark slaty: whole length 7·5 inches, wing 2·8, tail 2·8, bill from gape 1·9. *Female* nearly similar.

*Hab.* S.E. Brazil.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Santa Fé, Minas, Brazil (*Rogers*). | Sclater Coll. |
| *b*, *c*. ♂ ad. sk. | Novo Fribourgo, Brazil (*Youds*). | Salvin-Godman Coll. |
| *d*. ♀ ad. sk. | Vicinity of Bolivia (*Wucherer*). | Salvin-Godman Coll. |
| *e*. ♀ ad. sk. | S.E. Brazil. | Sclater Coll. |
| *f*. Ad. sk. | S.E. Brazil. | Purchased. |
| *g*. Ad. st. | S.E. Brazil. | Gould Coll. |
| *h*. Skeleton. | S.E. Brazil. | Eyton Coll. |

## 5. GALBALCYRHYNCHUS.

| | Type. |
|---|---|
| Galbalcyrhynchus, *Des Murs, Rev. Zool.* 1845, p. 207 .. | G. leucotis. |
| Jacamaralcyonides, *Des Murs, Icon. Orn.* t. 17 (1845) .. | G. leucotis. |
| Cauecias, *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 310 (1851) ..... | G. leucotis. |
| Alcyonides, *Reichenb. Handb. d. sp. Orn.* p. 83 (1851) .. | G. leucotis. |

This curious form is at once distinguishable from *Galbula* by its shorter, higher, and much compressed bill, its short square tail, and its stronger feet. There are twelve rectrices, the outer pair being abnormally small as in *Galbula*.

*Galbalcyrhynchus* is only found in the forests of Upper Amazonia and Eastern Ecuador.

### 1. Galbalcyrhynchus leucotis.

Galbalcyrhynchus leucotis, *Des Murs, Rev. Zool.* 1845, p. 207; *id. Exp. de Castelnau, Zool., Ois.* p. 31; *Gray et Mitch. Gen. B.* iii. App. p. 30 a; *Bp. Consp.* i. p. 153; *id. Consp. Vol. Zyg.* p. 14; *Scl. Syn. Galb.* p. 10; *id. P. Z. S.* 1855, pp. 16, 137; *id. Cat. A. B.* p. 268; *id. Monogr. Jac. and Puff-bds.* p. 53, pl. xvii.; *Cass. Cat. Halc.* p. 19; *Hartl. J. f. O.* 1857, p. 43; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, p. 978, 1873, p. 294; *iid. Nomencl.* p. 105; *Tacz. Orn. Pér.* iii. p. 121.

Jacamaralcyonides leucotis, *Des Murs, Icon. Orn.* t. 17.

Cauecias leucotis, *Cab. in Ersch u. Grub. Enc.* sect. 1, lii. p. 310; *Cab. et Hein. Mus. Hein.* iv. p. 228.

Alcyonides leucotis, *Reichenb. Handb.* p. 83.

Above and beneath brownish chestnut; cap, wings, and tail

blackish tinged with bronzy green; cheeks white; chin blackish; bill and feet white: whole length 8 inches, wing 3·5, tail 2·2, bill from gape 2·1. *Female* similar, but without the white cheeks.

*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a*. Ad. st. | Upper Amazonia. | Purchased. |
| *b*. Ad. st. | Upper Amazonia. | Gould Coll. |
| *c*. ♂ ad. sk. | Pebas, Peru (*Hauxwell*). | Sclater Coll. |
| *d*. Ad. sk. | Pebas, Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *e*. ♀ ad. sk. | Ucayali (*Bartlett*). | Sclater Coll. |
| *f*. ♀ ad. sk. | Ucayali (*Bartlett*). | Salvin-Godman Coll. |
| *g*. Ad. sk. | Ucayali. | E. Bartlett [C.]. |
| *h*. ♂ ad. sk. | Yquitos, Peru (*Whitely*). | Salvin-Godman Coll. |
| *i*, *k*. ♂ ad. sk. | Yquitos, Peru. | H. Whitely [C.]. |
| *l*, *m*. ♂ ♀ ad. sk. | Samiria, E. Peru (*Hauxwell*). | Purchased. |
| *n*. ♂ ad. sk. | Elvira, E. Peru (*Bartlett*). | Sclater Coll. |
| *o*, *p*. Ad. sk. | Rio Copotaza, Ecuador (*Buckley*). | Salvin-Godman Coll. |

## Subfamily II. JACAMEROPINÆ.

### 6. JACAMEROPS.

| | Type. |
|---|---|
| Jacamerops, *Less. Tr. d'Orn.* p. 234 (1831) ..... | J. grandis. |
| Lamprotila, *Sw. Class. B.* ii. p. 336 (1837) ..... | J. grandis. |

*Jacamerops* is the giant of the *Galbulidæ*, and is well distinguished by its incurved bill, which is much dilated at the base and has a sharp culminal ridge. The tail has twelve rectrices, of which the three outer pairs are much graduated. The tarsi are short and the feet weak.

*Jacamerops* has a wide range, from Veragua over Colombia, Venezuela, Guiana, and Amazonia.

#### 1. Jacamerops grandis.

Alcedo aurea, *P. L. S. Müll. Naturayst. Suppl.* p. 94 (?).
Great Jacamar, *Lath. Syn.* i. p. 605; *id. Gen. Hist.* iv. p. 3.
Alcedo grandis, *Gm. S. N.* i. p. 458.
Galbula grandis, *Lath. Ind. Orn.* i. p. 245; *Vieill. Enc. Méth.* p. 1325.
Le Jacammaciri, *Aud. et Vieill. Ois. Dor.* p. 8, i. *Jac.* t. 6.
Jacamarici, *Levaill. Ois. de Par.* ii. p. 125, t. 54.
Galbula jacamaciri, *Shaw, Nat. Misc.* vol. xx. t. 833.
Jacamerops grandis, *Less. Tr. d'Orn.* p. 234; *Gray et Mitch. Gen. B.* i. p. 84; *Gray, List Fiss. B. M.* p. 68; *Bp. Consp.* i. p. 153; *id. Consp. Vol. Zyg.* p. 13; *Reichenb. Handb.* p. 88; *Scl. Syn. Galb.* p. 9; *id. P. Z. S.* 1855, p. 16, 1857, p. 263; *id. Cat. A. B.* p. 268; *id. Monogr. Jac. and Puff-bds.* p. 57, pl. xviii.; *Cass. Cat. Hale.* p. 18; *Pelz. Sitz. Ak. Wien*, xx. p. 519; *id. Orn. Bras.* p. 25; *Burm. Syst. Ueb.* ii. p. 298; *Lawr. Ann. Lyc. N. Y.* vii. p. 291; *Scl. et Salv. P. Z. S.* 1864, p. 363, 1867, p. 582, 1873, p. 294, 1879, p. 536; *iid. Nomencl.* p. 105; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 122; *Salv. Ibis*, 1886, p. 62 (Brit. Guiana).
Lamprotila platyrhyncha, *Sw. Class. B.* ii. p. 336.
Lamprotila grandis, *Cab. in Schomb. Guian.* iii. p. 718; *id. in Ersch*

*a. Grub. Enc.* sect. 1, lii. p. 310; *Cab. et Hein. Mus. Hein.* iv. p. 227.

Jacamerops isidori, *Deville, Rev. Zool.* 1849, p. 55; *Reichenb. Handb.* p. 88; *Scl. Syn. Galb.* p. 10; *id. P. Z. S.* 1855, p. 16; *Bp. Consp. Vol. Zyg.* p. 13; *Des Murs, Exp. de Castelnau, Zool., Ois.* p. 32, t. x.

Lamproptila isidori, *Cab. et Hein. Mus. Hein.* iv. p. 227.

Above shining metallic green, more or less glossed with copper, especially on the back: wings and tail blackish, with metallic green edgings; sides of head and chin golden green; large guttural spot white; abdomen chestnut; under wing-coverts and inner margins of wing-feathers rufous; bill and feet black: whole length 10·8 inches, wing 4·5, tail 5. *Female* similar, but without the white guttural spot, and the abdomen not so dark.

*Hab.* Guiana, Amazonia, Ecuador, Colombia, and Veragua.

I have examined the type of *J. isidori* in the French National Collection. It seems to me to be merely a melanoid variety of *J. grandis*, the green of the back having passed into a dark purple.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *c.* ♂ ad. sk. | R. Attapurow, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *d.* ♂ ad. sk. | Demerara. | Purchased. |
| *e.* ♀ ad. st. | Demerara. | Purchased. |
| *f.* ♀ ad. sk. | Cayenne. | Purchased. |
| *g.* ♀ ad. sk. | Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *h.* ♂ ad. sk. | Amazonia. | A. R. Wallace [C.]. |
| *i.* ♀ ad. sk. | Barra (*Wallace*). | Sclater Coll. |
| *k.* ♂ ad. sk. | Ega, Amazonia. | Purchased. |
| *l.* ♂ ad. sk. | Santa Cruz, Upper Amazons (*Bates*). | Sclater Coll. |
| *m, n.* ♂ ♀ ad. sk. | Napo, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *o.* ♂ ad. sk. | Remedios, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *p.* ♂ ad. sk. | Bogota. | Sclater Coll. |
| *q, r.* ♂ ♀ ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |
| *s.* ♂ ad. sk. | Chepo, Panama (*Arcé*). | Salvin-Godman Coll. |
| *t.* ♀ ad. sk. | Veragua (*Arcé*). | Salvin-Godman Coll. |

# Family BUCCONIDÆ.

(By P. L. SCLATER.)

The *Bucconidæ* or Puff-birds constitute a very distinct family of Zygodactylous *Picariæ*, nearly allied to the *Galbulidæ*, and likewise entirely restricted to the Neotropical Region. Like the *Galbulidæ* the *Bucconidæ* have a nude oil-gland, long globose cæca, and perfectly-formed clavicles, and are by these characters readily separable from the *Indicatoridæ*, *Capitonidæ*, and *Rhamphastidæ*, in which the oil-gland is tufted, there are no cæca, and the clavicles are more or less imperfectly developed.

The differences between the present group and the *Galbulidæ* have been given at full length by Forbes in the Introduction to my Monograph *. It may be sufficient on the present occasion to point out that the *Bucconidæ* are readily distinguishable from the *Galbulidæ* by the shorter and stronger bill, which is more or less hooked or incurved at the tip, by the presence of twelve well-formed rectrices, and by the absence of an after-shaft in the contour-feathers.

The *Bucconidæ* do not appear to range quite so far north as the *Galbulidæ*. In Guatemala and Belize we first meet with two species. In Costa Rica and Veragua the number is increased to seven. In Colombia and Amazonia the majority of the species occur; seven are found in the wood-region of S.E. Brazil and one in Paraguay. The existence of a member of this family in the Argentine province of Tucuman has been ascertained by Dr. Burmeister, but it is not yet quite certain what the exact species is that is there met with †.

In the Patagonian and Antillean Subregions, as in the case of the Jacamars, there are no *Bucconidæ*.

Speaking generally, it may be said that the Puff-birds are a purely arboreal and forest-frequenting group. They seem to pass the greater part of their lives sitting upon the topmost or outermost branches of the trees, generally selecting twigs that are dry and withered for their perch, and looking out for insects, which are captured flying, and constitute their only food. The Swallow-wing (*Chelidoptera*) nests in holes in banks, like the Kingfishers, and lays

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* Sclater, Mon. Jac. & Puff-bds. pp. xxvii *et seq.*

† *Cf.* Scl. et Huds. Arg. Orn. ii. p. 30.

white eggs. Of the mode of nidification of the other members of the family we are at present almost entirely ignorant; but it is probable that they either follow the same practice, or else nest in hollow trees, and that their eggs are colourless, like those of other birds which deposit their eggs in similar situations.

*Key to the Genera.*

A. Bill straight, widened at the base; tip hooked ..... 1. BUCCO, p. 179.
B. Bill more or less incurved, compressed; tip incurved but not hooked, except in *Hapaloptila*.
*a*. Tail longer, rounded.
*a'*. Wings short.
*a''*. Bill shorter and thicker.
Tail moderate ..... 2. MALACOPTILA, p. 193.
Tail short ..... 3. MICROMONACHA, p. 199.
*b''*. Bill longer and thinner ..... 4. NONNULA, p. 199.
*b'*. Wings lengthened.
Bill hooked; tail shorter .... 5. HAPALOPTILA, p. 202.
Bill incurved; tail longer .... 6. MONACHA, p. 202.
*b*. Tail shorter, squared; wings long .. 7. CHELIDOPTERA, p. 207.

## 1. BUCCO.

| | Type. |
|---|---|
| Bucco, *Briss. Orn.* iv. p. 92 (1760) ..... | B. collaris. |
| Cyphos, *Spix, Av. Bras.* i. p. 51 (1824) ..... | B. macrodactylus. |
| Nystactes, *Gloger, Froriep's Notizen*, xvi. p. 277 (1827) ..... | B. tamatia. |
| Tamatia, *Less. Tr. d'Orn.* p. 166 (1831) ..... | B. tectus. |
| Chaunornis, *Gray, List Gen. B.* p. 13 (1841) .... | B. tamatia. |
| Nystalus, *Cab. et Hein. Mus. Hein.* iv. p. 139 (1863) ..... | B. maculatus. |
| Hypnelus, *Cab. et Hein. Mus. Hein.* iv. p. 143 (1863) ..... | B. bicinctus. |
| Nothriscus, *Cab. et Hein. Mus. Hein.* iv. p. 146 (1863) ..... | B. tectus. |
| Argicus, *Cab. et Hein. Mus. Hein.* iv. p. 148 (1863) ..... | B. macrodactylus. |
| Notharchus, *Cab. et Hein. Mus. Hein.* iv. p. 149 (1863) ..... | B. hyperrhynchus. |

This extensive genus, which is spread over the whole area of the family, is divisible, according to the shape of the bill, into two subgenera, *Bucco* and *Nystalus*. It contains 20 species, which may be arranged as follows :—

*Key to the Species.*

A. Bill rounded, dilated at the base. (*Bucco.*)
*a*. With a distinct breast-band.
*a'*. Rufous and white; bill red ..... 1. *collaris*, p. 180.

*b'*. Black and white; bill black.
*a''*. Larger: cap black.
*a'''*. Breast-band black.
*a*⁴. Front and belly white:
white front narrow ..... 2. *macrorhynchus*, p. 181.
white front moderate .... 3. *dysoni*, p. 182.
white front broad ..... 4. *lugerrhynchus*, p. 183.
*b*⁴. Front white: belly rufescent. 5. *swainsoni*, p. 183.
*c*⁴. Front black; belly white.... 6. *pectoralis*, p. 184.
*b'''*. Breast-band black and brown.. 7. *ordi*, p. 184.
*b''*. Smaller; cap black with white spots.
*c'''*. Breast-band broad:
six middle rectrices spotted. 8. *tectus*, p. 185.
six middle rectrices not spotted ..... 9. *picatus*, p. 186.
*d'''*. Breast-band narrow ..... 10. *subtectus*, p. 186.
*c'*. Brown and rufous; bill black.
*c''*. Cap castaneous ..... 11. *macrodactylus*, p. 186.
*d''*. Cap brown:
with one breast-band ..... 12. *ruficollis*, p. 187.
with two breast-bands ..... 13. *bicinctus*, p. 188.
*b*. Without a breast-band:
black spots on belly less numerous . 14. *tamatia*, p. 188.
black spots on belly more numerous. 15. *pulmentum*, p. 189.

B. Bill compressed and more elevated. (*Nystalus.*)
*c*. Breast rufous, unspotted:
belly white with black spots ..... 16. *maculatus*, p. 190.
belly white with black stripes .... 17. *striatipectus*, p. 190.
*d*. Breast white, unspotted ..... 18. *chacuru*, p. 191.
*e*. Breast ochraceous, variegated:
with black striations ..... 19. *striolatus*, p. 192.
with black cross-bars ..... 20. *radiatus*, p. 192.

## 1. Bucco collaris.

Bucco capensis, *Linn. S. N.* i. p. 168; *Gmel. S. N.* i. p. 406.
Barbu à collier de Cayenne, *Daub. Pl. Enl.* 395.
Le Tamatia à collier, *Buff. Hist. Nat.* vii. p. 97; *Levaill. Ois. de Par.* ii. p. 97, t. 42.
Bucco collaris, *Lath. Ind. Orn.* i. p. 202; *Vieill. Nouv. Dict.* iii. p. 240; *id. Enc. Méth.* p. 1420; *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 47; *Scl. Ann. N. H.* ser. 2, xiii. p. 356; *id. Syn. Bucc.* p. 7; *id. P. Z. S.* 1854, p. 110, 1855, p. 196; *id. Cat. A. B.* p. 268; *id. Monogr. Jac. and Puff-bds.* p. 61, pl. xix.; *Pelz. Sitz. Ak. Wien*, xx. p. 510; *id. Orn. Bras.* p. 22; *Cab. et Hein. Mus. Hein.* iv. p. 148; *Scl. et Salv. P. Z. S.* 1867, pp. 582, 751, 1873, p. 294; *id. Nomencl.* p. 105; *Salv. Ibis*, 1886, p. 62 (Brit. Guiana); *Tacz. Orn. Pér.* iii. p. 123.
Collared Barbet, *Lath. Gen. Hist.* iii. p. 218.
Capito collaris, *Wagl. Syst. Av.* Capito, sp. 3; *Tsch. Faun. Per., Aves*, p. 259; *Bp. Consp.* i. p. 146; *id. Consp. Vol. Zyg.* p. 13; *Burm. Syst. Ueb.* ii. p. 287.
Tamatia collaris, *Less. Tr. d'Orn.* p. 167; *Hahn u. Küst. Vög. aus Asien*, Lief. iii. t. 5.

Above bright rusty red, crossed with black linear bands except on the sides of the head: dorsal band black; wings blackish; coverts, external secondaries, and tail like the back: beneath white, abdomen washed with ochraceous; pectoral band black; bill orange-red, culmen blackish: feet brown: whole length 7 inches, wing 3·2, tail 6, bill from gape 1·4. *Female* similar.

*Hab.* Guiana and Amazonia.

| | | |
|---|---|---|
| *a.* Ad. st. | S. America. | Purchased. |
| *b*, *c.* ♂ ♀ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *d.* ♂ ad. sk. | Roraima, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e.* Imm. sk. | Cayenne. | Sclater Coll. |
| *f.* ♀ ad. sk. | Marabitanos, Rio Negro (*Natterer*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *h.* ♀ ad. sk. | Chyavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *i.* ♀ ad. sk. | Yquitos, E. Peru (*Whitely*). | Sclater Coll. |
| *k.* ♀ ad. sk. | Loreto-yacu, E. Peru (*Hauxwell*). | Sclater Coll. |
| *l.* Ad. st. | Upper Amazons. | H. W. Bates [C.]. |
| *m.* Jr. sk. | Upper Amazons (*Bates*). | Purchased. |
| *n p.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |

## 2. Bucco macrorhynchus.

Barbu à gros bec de Cayenne, *Daub. Pl. Enl.* 689.
Le plus grand Tamatia noir et blanc, *Buff. Hist. Nat.* vii. p. 99.
Greater Pied Barbet, *Lath. Syn.* i. p. 498; *id. Gen. Hist.* iii. p. 220.
Bucco macrorhynchos, *Gm. S. N.* i. p. 406; *Lath. Ind. Orn.* i. p. 203; *Vieill. Nouv. Dict.* iii. p. 240; *id. Enc. Méth.* p. 1420; *Gray, List Fiss. B. M.* p. 47.
Tamatia à plastron noir, *Levaill. Ois. de Par.* ii. p. 92, t. 39.
Capito macrorhynchus, *Wagl. Syst. Av.* Capito, sp. 1; *Bp. Consp.* i. p. 146.
Tamatia macrorhynchus, *Less. Tr. d'Orn.* p. 167; *Bp. Consp. Vol. Zyg.* p. 13.
Cyphos macrorhynchus, *Strickl. Ann. Nat. Hist.* vi. p. 418.
Bucco macrorhynchus, *Gray et Mitch. Gen. B.* i. p. 74; *Cab. in Schomb. Guian.* iii. p. 719; *Scl. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 269; *id. Monogr. Jac. and Puff-bds.* p. 65, pl. xx.; *Pelz. Sitz. Ak. Wien*, xx. p. 511; *id. Orn. Bras.* p. 21; *Scl. et Salv. Nomencl.* p. 105; *Salv. Ibis*, 1886, p. 62 (Brit. Guiana); *Tacz. Orn. Pér.* iii. p. 123.
Notharchus macrorhynchus, *Cab. et Hein. Mus. Hein.* iv. p. 151.

Above black: narrow front and nape-band and slight edgings to feathers of the back and scapulars white: beneath white; broad breast-band black: flanks barred with white and black; belly slightly tinged with fulvous: inner webs of wing-feathers white; under wing-coverts black; bill black; feet brown: whole length 8·5 inches, wing 4·1, tail 3, bill from gape 1·7. *Female* similar.

*Hab.* Guiana, Cayenne, and Lower Amazonia.

| | | |
|---|---|---|
| *a*. Ad. sk. | Cayenne. | Sclater Coll. |
| *b*. Ad. sk. | British Guiana. | Sclater Coll. |
| *c, d*. ♀ ad. sk. | Roraima, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e*. ♂ jr.; *f*. ♀ ad. sk. | Camacusa, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *g*. ♀ jr. sk. | Merumé Mts., Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |

### 3. Bucco dysoni.

Capito macrorhynchus, *Tsch. Faun. Per., Aves*, p. 259.
Bucco macrorhynchus, *Scl. P. Z. S.* 1854, p. 110.
Tamatia gigas, *Bp. Consp. Vol. Zyg.* p. 13.
Bucco dysoni, *Scl. P. Z. S.* 1855, p. 193; *id. Cat. A. B.* p. 269; *id. Monogr. Jac. and Puff-bds.* p. 67, pl. xxi.; *Scl. et Salv. Ibis*, 1860, p. 40; *iid. P. Z. S.* 1864, p. 363; *iid. Nomencl.* p. 105; *Lawr. Ann. Lyc. N. Y.* vii. p. 318; *Salv. P. Z. S.* 1870, p. 201; *id. Ibis*, 1872, p. 322 (Nicaragua); *Nutting, Pr. U. S. N. M.* v. p. 401 (Costa Rica); *Tacz. et Berl. P. Z. S.* 1885, p. 118 (Ecuador).
Bucco leucocrissus, *Scl. P. Z. S.* 1860, p. 284; *id. Cat. A. B.* p. 269.
Bucco napensis, *Scl. Cat. A. B.* p. 269.
Notharchus dysoni, *Cab. et Hein. Mus. Hein.* iv. p. 149.
Notharchus albicrissus, *Cab. et Hein. Mus. Hein.* iv. p. 151.
Notharchus napensis, *Cab. et Hein. Mus. Hein.* iv. p. 152.

Similar to *B. macrorhynchus*, but with the white front wider, and without the fulvous tinge on the belly.

*Hab.* Central America, Colombia, Ecuador, and Upper Amazonia.

| | | |
|---|---|---|
| *a, b*. ♂ ♀ ad. sk. | Cayo, Brit. Honduras (*Blancaneaux*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Vera Paz (*Constancia*). | Sclater Coll. |
| *d, e*. ♂ ♀ ad. sk. | Escuintla, Guatemala (*Salvin & Godman*). | Salvin-Godman Coll. |
| *f*. Ad. sk. | Honduras. | E. Dyson [C.]. |
| *g*. Ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *h*. ♂ ad. sk. | Mina de Chorcha, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *i*. ♂ ad. sk. | Bugaba, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *k*. ♂ ad. sk. | Lion-Hill Station, Panama (*McLeannan*). | Salvin-Godman Coll. |
| *l*. Ad. sk. | Chepo, Panama (*Arcé*). | O. Salvin, Esq. [P.]. |
| *m*. Ad. sk. | Panama. | Sclater Coll. |
| *n*. Ad. sk. | Bogota. | Sclater Coll. |
| *o*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *p*. Ad. sk. | Rio Napo, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *q*. Ad. sk. | Rio Napo, Ecuador. | Gould Coll. |
| *r*. Ad. sk. | Rio Napo, Ecuador. | Sclater Coll. (Type of *B. napensis*.) |
| *s–u*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *v, w*. ♂ ♀ ad. sk. | Babahoyo, Ecuador (*Fraser*). | Sclater Coll. (Types of *B. leucocrissus*.) |
| *x, y*. Ad. sk. | Balzar Mts., Ecuador (*Illingworth*). | Salvin-Godman Coll. |
| *z*. ♂ ad. sk. | Upper Amazons (*Wallace*). | Sclater Coll. |

### 4. Bucco hyperrhynchus.

Bucco macrorhynchus, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 357; *id. Syn. Bucc.* p. 7.
Tamatia hyperrhynchus, *Bp. Consp. Vol. Zyg.* p. 13 (1854).
Bucco hyperrhynchus, *Scl. P. Z. S.* 1855, p. 193, pl. cv., 1858, p. 60; *id. Cat. A. B.* p. 269; *id. Monogr. Jac. and Puff-bds.* p. 71, pl. xxii.; *Scl. et Salv. P. Z. S.* 1867, p. 582, 1873, p. 295; *id. Nomencl.* p. 105; *Layard, Ibis*, 1873, p. 391; *Tacz. Orn. Pér.* iii. p. 125.
Bucco (Capito) giganteus, *Pelz. Sitz. Ak. Wien*, xx. p. 511 (1856).
Notharchus hyperrhynchus, *Cab. et Hein. Mus. Hein.* iv. p. 150.
Bucco giganteus, *Pelz. Orn. Bras.* p. 20.

Above black; broad front, extending up to the eyes, and narrow nuchal collar white; back and scapulars with very slight whitish margins: beneath white; broad pectoral band black; flanks barred with black and white; under wing-coverts black; inner webs of wing-feathers white; under surface of tail cinereous, with slight whitish ends to the tail-feathers; bill strong, long, black; feet dark brown: whole length 10·2 inches, wing 4·5, tail 3·3, bill 2·2. *Female* similar.

*Hab.* Amazonia.

This species is distinguished from the two preceding by its very large bill and the greater broadness of the white forehead.

| | | |
|---|---|---|
| *a*. Ad. sk. | Eastern Peru (*Hauxwell*). | Sclater Coll. |
| *b*. Ad. sk. | Chamicuros, E. Peru. | E. Bartlett [C.]. |
| *c*. ♀ ad. sk. | Para, Lower Amazons (*Layard*). | Sclater Coll. |
| *d*. ♀ ad.; *e*. Ad. sk. | Para, Lower Amazons (*Layard*). | Tweeddale Coll. |
| *f*. Ad. sk. | Para, Lower Amazons (*Wallace*). | Salvin-Godman Coll. |
| *g*. Ad. sk. | Para, Lower Amazons. | Zool. Soc. Coll. |
| *h*. Ad. sk. | Pernambuco, Brazil (*Craven*). | Sclater Coll. |

### 5. Bucco swainsoni.

Tamatia macrorhynchos, *Sw. Zool. Ill.* ser. 1, ii. pl. 99.
Bucco swainsonii, *Gray et Mitch. Gen. B.* i. p. 74; *id. List Fiss. B. M.* p. 47; *Sclater, Ann. N.H.* ser. 2, xiii. p. 358; *id. Syn. Bucc.* p. 8; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 269; *id. Monogr. Jac. and Puff-bds.* p. 73, pl. xxiii.; *Pelz. Sitz. Ak. Wien*, xx. p. 509; *id. Orn. Bras.* p. 21; *Scl. et Salv. Nomencl.* p. 105.
Capito swainsoni, *Bp. Consp.* i. p. 146.
Tamatia swainsoni, *Bp. Consp. Vol. Zyg.* p. 13.
Capito macrorhynchus, *Burm. Syst. Ueb.* ii. p. 283.
Notharchus swainsoni, *Cab. et Hein. Mus. Hein.* iv. p. 151; *Cab. J. f. O.* 1874, p. 227.

Above black; narrow line along the front and slight nuchal collar white: beneath, throat white, pectoral collar black: abdomen fulvous; sides barred with black and white; bill black; feet

brown: whole length 8·8 inches, wing 4, tail 3·2, bill from gape 1·5. *Femal* similar.

*Hab.* S.E. Brazil.

The narrow white frontal line and fulvous belly distinguish this species.

| | | |
|---|---|---|
| *a, b.* Ad. st. | S.E. Brazil. | Purchased. |
| *c.* Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *d.* Ad. sk. | S.E. Brazil. | Purchased. |
| *e, f.* Ad. sk. | Novo Fribourgo (*Youds*). | Salvin-Godman Coll. |
| *g.* Skeleton. | S.E. Brazil. | Eyton Coll. |

### 6. Bucco pectoralis.

Bucco pectoralis, *Gray et Mitch. Gen. B.* i. p. 74, pl. xxvi.; *Gray, List Fiss. B. M.* p. 47; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 358; *id. Syn. Bucc.* p. 8; *id. P. Z. S.* 1855, p. 196; *id. Monogr. Jac. and Puff-bds.* p. 75, pl. xxiv.; *Lawr. Ann. Lyc. N. Y.* vii. p. 464 (Panama); *Scl. et Salv. P. Z. S.* 1864, p. 363, et 1879, p. 536; *iid. Nomencl.* p. 105; *Wyatt, Ibis*, 1871, p. 374; *Berl. J. f. O.* 1884, pp. 277, 315 (Bucaramanga).
Capito pectoralis, *Bp. Consp.* i. p. 146.
Tamatia pectoralis, *Bp. Consp. Vol. Zyg.* p. 13.

Above black, with slight bronzy tinge: sides of head and slight nuchal collar white: feathers of lower back and scapulars slightly edged with white: beneath white; broad pectoral band extending over the sides of the neck up to the eye bronzy black: flanks barred with black and white; bill and feet black: whole length 8 inches, wing 3·9, tail 3·2, bill from gape 1·5.

*Hab.* Panama and Colombia.

The wholly black front and the wide extension of the black breast-band render this a well-marked species.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Lion Hill Station, Panama (*McLeannan*). | Salvin-Godman Coll. |
| *b.* Ad. sk. | Panama (*McLeannan*). | Sclater Coll. |
| *c.* Ad. sk. | Chepo, Panama (*Arcé*). | Salvin-Godman Coll. |
| *d.* Ad. sk. | Valley of Magdalena (*Wyatt*). | Salvin-Godman Coll. |
| *e.* ♂ ad. sk. | Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | S. America. | Purchased. (Type of the species.) |

### 7. Bucco ordi.

Bucco ordi, *Cass. Proc. Ac. Nat. Sci. Philad.* 1851, p. 154, pl. 8; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 359; *id. Syn. Bucc.* p. 9; *id. P. Z. S.* 1855, p. 196, et 1857, p. 262; *id. Monogr. Jac. and Puff-bds.* pl. 77, pl. xxv.; *Pelz. Sitz. Ak. Wien*, xx. p. 510; *id. Orn. Bras.* p. 22; *Scl. et Salv. Nomencl.* p. 105.
Tamatia ordi, *Bp. Consp. Vol. Zyg.* p. 13.
Notharchus ordi, *Cab. et Hein. Mus. Hein.* iv. p. 152.

Above black, washed with bronzy on the back; narrow frontal

band and nuchal collar white; external secondaries and upper tail-coverts slightly margined with white: tail black, with a medial band and narrow terminal band of white: beneath, throat and sides of neck white; pectoral band black, passing beneath into brownish chestnut; belly and crissum white, varied with black; under wing-coverts black; inner webs of wing-feathers at the base white; bill and feet black: whole length 7·8 inches, wing 3·4, tail 2·5, bill from gape 1·4.

*Hab.* Amazonia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Oyapock, Cayenne (?). | Sclater Coll. |
| *b.* Ad. st. | Ega, Upper Amazons (*Bates*). | Purchased. |

### 8. Bucco tectus.

Barbu à poitrine noire de Cayenne, *Daub. Pl. Enl.* 688. fig. 2.
Le plus petit Tamatia noir et blanc, *Buff. Hist. Nat.* vii. p. 99.
Bucco tectus, *Bodd. Tabl. d. Pl. Enl.* p. 43; *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 47; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 359; *id. Syn. Bucc.* p. 9; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 270; *id. Monogr. Jac. and Puff-bds.* p. 79, pl. xxvi.; *Scl. et Salv. P. Z. S.* 1867, p. 582; *iid. Nomencl.* p. 105; *Pelz. Orn. Bras.* p. 21; *Layard, Ibis*, 1873, p. 391; *Salv. Ibis*, 1886, p. 62 (Brit. Guiana).
Bucco melanoleucos, *Gmel. Syst. Nat.* i. p. 406; *Lath. Ind. Orn.* i. p. 203; *Vieill. Nouv. Dict.* iii. p. 241; *Licht. Doubl.* p. 8.
Petit Tamatia à plastron noir, *Levaill. Ois. de Par.* ii. p. 93, t. 40.
Lesser Pied Barbet, *Lath. Gen. Hist.* iii. p. 220.
Bucco melanoleucus, *Vieill. Enc. Méth.* p. 1420; *Pelz. Sitz. Ak. Wien*, xx. p. 510.
Tamatia melanoleucus, *Less. Tr. d'Orn.* p. 167.
Capito melanoleucus, *Wagl. Syst. Av.* Capito, sp. 2; *Bp. Consp.* i. p. 146; *id. Consp. Vol. Zyg.* p. 13; *Burm. Syst. Ueb.* ii. p. 284.
Nothriscus tectus, *Cab. et Hein. Mus. Hein.* iv. p. 146.

Above black; spots on the head, stripe on each side through the eye, and narrow margins to the scapulars and upper tail-coverts white: beneath white; broad pectoral band black; flanks barred with black and white; tail black, with a white median bar and broad terminal spots on the lateral rectrices; bill and feet black: whole length 6 inches, wing 2·9, tail 2·1, bill from the gape 1. *Female* similar.

*Hab.* Guiana, Cayenne, Lower Amazonia, and N.E. Brazil.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Camacusa, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *b.* ♂ ad.; *c, d.* ♀ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *e.* Ad. st. | Cayenne. | H. C. Rothery [P.]. |
| *f.* Ad. sk. | Cayenne. | Sclater Coll. |
| *g.* Ad. sk. | Cayenne. | Purchased. |
| *h.* Ad. sk. | Pernambuco, Brazil (*Craven*). | Sclater Coll. |
| *i.* ♀ ad. sk. | Pará (*Wallace*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *k, l.* ♂ ♀ ad. sk. | Pará (*Layard*). | Tweeddale Coll. |
| *m.* Ad. st. | Pará. | R. Graham [P.]. |
| *n, o.* Ad. st. | S. America. | Purchased. |

### 9. Bucco picatus.

Bucco picatus, *Scl. P. Z. S.* 1855, p. 194; *id. Mon. Jac. and Puff-bds.* p. 81; *Scl. et Salv. P. Z. S.* 1873, p. 295 (E. Peru); *id. Nomencl.* p. 105; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 124.
Nothriscus picatus, *Cab. et Hein. Mus. Hein.* iv. p. 146.

Similar to *B. tectus*, but rather larger: black colour more intense, and six middle rectrices without white spots.
*Hab.* Upper Amazonia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Huallaga r., Upper Amazons (*Hauxwell*). | Gould Coll. (Type of the species.) |
| *b.* ♀ ad. sk. | Samiria, Upper Amazons (*Hauxwell*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |

### 10. Bucco subtectus.

Bucco subtectus, *Sclater, P. Z. S.* 1860, p. 296; *id. Cat. A. B.* p. 270; *id. Monogr. Jac. and Puff-bds.* p. 83, pl. xxvii.; *Scl. et Salv. P. Z. S.* 1864, p. 363, 1879, p. 536; *iid. Nomencl.* p. 106; *Tacz. et Berl. P. Z. S.* 1885, pp. 118, 123 (Ecuador).
Bucco tectus, *Lawr. Ann. Lyc. N. Y.* vii. p. 318.
Nothriscus subtectus, *Cab. et Hein. Mus. Hein.* iv. p. 147.

Similar to *B. tectus*, but hinder part of cap unspotted; pectoral collar narrower, and general size rather smaller.
*Hab.* Western Ecuador, Northern Colombia, and Veragua.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Esmeraldas, Ecuador (*Fraser*). | Sclater Coll. (Type of the species.) |
| *b.* ♂ ad. sk. | Nichi, Antioquia (*Salmon*). | Sclater Coll. |
| *c.* ♂ ad. sk. | Nichi, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *d, e.* ♂ ad.; *f.* ♀ ad. sk. | Lion Hill Station, Panama (*McLeannan*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Panama. | Salvin-Godman Coll. |
| *h.* Ad. sk. | Panama (*McLeannan*). | Sclater Coll. |
| *i.* ♀ ad. sk. | Veragua (*Arcé*). | Salvin-Godman Coll. |

### 11. Bucco macrodactylus.

Cyphos macrodactylus, *Spix, Av. Bras.* i. p. 51, pl. 39. fig. 2; *Bp. Consp. Vol. Zyg.* p. 13.
Capito cyphos, *Wagl. Syst. Av.* Capito, sp. 4; *Tsch. Faun. Per., Aves*, p. 259.
Tamatia macrodactylus, *Less. Tr. d'Orn.* p. 168.
Capito macrodactylus, *Bp. P. Z. S.* 1837, p. 119; *id. Consp.* i. p. 146; *Burm. Syst. Ueb.* ii. p. 285.

Bucco macrodactylus, *Gray et Mitch. Gen. B.* i. p. 74; *Sclater, Ann. N. H.* ser. 2, xiii. p. 364; *id. Syn. Bucc.* p. 14; *id. P. Z. S.* 1855, pp. 136, 196, 1857, p. 261, et 1858, p. 60; *id. Cat. A. B.* p. 271; *id. Monogr. Jac. and Puff-bds.* p. 85, pl. xxviii.; *Pelz. Sitz. Ak. Wien*, xx. p. 510; *id. Orn. Bras.* p. 22; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, p. 751, et 1873, p. 295; *id. Nomencl.* p. 106; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 128; *Berl. J. f. O.* 1889, p. 308.

Argicus macrodactylus, *Cab. et Hein. Mus. Hein.* iv. p. 148.

Above coffee-brown; back and wing-coverts speckled with ochraceous; narrow front ochraceous; cap ferruginous; superciliary stripe white; sides of head black, bordered beneath by a white stripe: beneath, throat ochraceous; broad guttural band black; belly pale fulvous, crossed by numerous irregular fine bars of brown; bill and feet black: whole length 6·2 inches, wing 2·5, tail 2·4, bill 1·1. *Female* similar.

*Hab.* Upper Amazonia, Ecuador, and Colombia.

This is quite a distinct species, easily recognizable by its ferruginous cap and the position of the black band high up on the throat.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Elvira, E. Peru (*Hauxwell*). | Sclater Coll. |
| *b.* ♀ ad. sk. | Loreto-yacu, E. Peru (*Hauxwell*). | Sclater Coll. |
| *c, d.* Ad. sk. | Sarayacu, E. Peru (*Whitely*). | Sclater Coll. |
| *e.* ♀. ad. sk. | Chyavetas, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Bogota. | Sclater Coll. |
| *h.* Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *i.* Ad. sk. | Bogota. | Purchased. |
| *k, l.* Ad. st. | Bogota. | Purchased. |
| *m.* Ad. sk. | S. America. | Sclater Coll. |

## 12. Bucco ruficollis.

Capito ruficollis, *Wagl. Isis*, 1829, p. 658; *Bp. Consp.* i. p. 146.

Tamatia gularis, *d'Orb. et Lafr. Rev. Zool.* 1838, p. 166.

Bucco ruficollis, *Gray et Mitch. Gen. B.* i. p. 74; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 360; *id. Syn. Bucc.* p. 10, pl. 1; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 270; *id. Monogr. Jac. and Puff-bds.* p. 89, pl. xxix.; *Cassin, Proc. Acad. Philad.* 1860, p. 134; *Scl. et Salv. P. Z. S.* 1870, p. 781; *id. Nomencl.* p. 106; *Wyatt, Ibis*, 1871, p. 374; *Salv. et Godm. Ibis*, 1880, p. 175; *Berl. J. f. O.* 1884, p. 318 (Bucaramanga).

Capito gularis, *Bp. Consp.* i. p. 146.

Chaunornis ruficollis, *Bp. Consp. Vol. Zyg.* p. 13.

Hypnelus ruficollis, *Cab. et Hein. Mus. Hein.* iv. p. 144.

Above brown, varied on the back with dirty white spots and blotches; front and narrow nuchal band ochraceous; sides of head white: beneath dirty white; throat rufous; breast crossed by a well-defined black collar; flanks slightly barred with blackish; bill black; feet dark brown: whole length 8·4 inches, wing 3·5, tail 1·6. *Female* similar.

*Hab.* Northern Colombia.

The large size and rufous throat render this species easily distinguishable.

| | | |
|---|---|---|
| *a*. Ad. st. | Santa Marta, U. S. C. | Purchased. |
| *b*. Ad. sk. | Santa Marta, U. S. C. | Sclater Coll. |
| *c*. Ad. sk. | Savanilla, U. S. C. | Salvin-Godman Coll. |
| *d*. Ad. sk. | Ocaña, U. S. C. (*Wyatt*). | Salvin-Godman Coll. |
| *e*. Ad. sk. | Valle Dupar, U. S. C. (*Simons*). | Salvin-Godman Coll. |

### 13. Bucco bicinctus.

Tamatia bicincta, *Gould, P. Z. S.* 1836, p. 80.
Tamatia bitorquata, *Sw. An. in Menag.* p. 327.
Bucco bicinctus, *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 48; *Sclater, Ann. N. H.* ser. 2, xiii. p. 361; *id. Syn. Bucc.* p. 11, pl. 2; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 271; *id. Monogr. Jac. and Puff-bds.* p. 91, pl. xxx.; *Scl. et Salv. P. Z. S.* 1868, pp. 168, 628; *iid. Nomencl.* p. 106; *Berl. Ibis*, 1884, p. 435 (Orinoco).
Capito bicincta, *Bp. Consp.* i. p. 146.
Chaunornis bicincta, *Bp. Consp. Vol. Zyg.* p. 13.
Hypnelus bicinctus, *Cab. et Hein. Mus. Hein.* iv. p. 143.

Above brown, with numerous fulvous spots and blotches; wings and tail blackish brown, with slight fulvous edgings; lores and auricular plumes white; beneath pale ochraceous, with a broader (higher) and a narrower (lower) breast-band of black; flanks crossed by irregular black bars; bill and feet black; whole length 8 inches, wing 3·5, tail 3·2, bill 1·5. *Female* similar.

*Hab.* Venezuela.

The double-banded breast at once distinguishes this species, which is otherwise nearly allied to *B. ruficollis*.

| | | |
|---|---|---|
| *a*. Ad. st. | Venezuela. | Purchased. |
| *b*. Ad. sk. | Venezuela. | E. Dyson [C.]. |
| *c*. Ad. sk. | Venezuela. | Zool. Soc. Coll. |
| *d–f*. Ad. sk. | Venezuela. | Sclater Coll. |
| *g*. ♀ ad. sk. | Pilar, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *h*. Ad. sk. | San Esteban, Venezuela (*Goering*). | Salvin-Godman Coll. |

### 14. Bucco tamatia.

Le Tamatia, *Buff. Hist. Nat. Ois.* vii. p. 94.
Barbu à ventre tacheté de Cayenne, *Daub. Pl. Enl.* 746. fig. 1.
Bucco tamatia, *Gmel. S. N.* i. p. 405; *Lath. Ind. Orn.* i. p. 201; *Vieill. Nouv. Dict.* iii. p. 241; *id. Enc. Méth.* p. 1421; *id. Gal. Ois.* i. p. 21, t. 34; *Licht. Doubl.* p. 8; *Gray et Mitch. Gen. B.* i. p. 74; *Cab. in Schomb. Guian.* iii. p. 719; *Gray, List Fiss. B. M.* p. 48; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 360; *id. Syn. Bucc.* p. 10; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 270; *id. Monogr. Jac. and Puff-bds.* p. 93, pl. xxxi. fig. 1; *Pelz. Sitz. Ak. Wien*, xx. p. 509; *id. Orn. Bras.* p. 22; *Scl. et Salv. P. Z. S.*

1867, p. 582; *iid. Nomencl.* p. 106; *Salv. Ibis*, 1886, p. 63 (Brit. Guiana).
Tamatia à gorge rousse, *Levaill. Ois. de Par.* ii. p. 95, t. 41.
Tamatia maculata, *Cuv. Règn. An.* i. p. 429; *Swains. Bds. Brazil*, pl. 11.
Spotted-bellied Barbet, *Lath. Gen. Hist.* iii. p. 215.
Capito tamatia, *Wagl. Syst. Av.* Capito, sp. 6; *Bp. Consp. Vol. Zyg.* p. 13; *Burm. Syst. Ueb.* ii. p. 286.
Nyctactes tamatia, *Strickl. Ann. Nat. Hist.* vi. p. 418.
Chaunornis tamatia, *Gray, List Gen. B.* p. 13 (1841); *Cab. et Hein. Mus. Hein.* iv. p. 144.
Tamatia tamatia, *Bp. Consp.* i. p. 146.
Chaunornis hypnalea, *Cab. et Hein. Mus. Hein.* iv. p. 145.

Above sooty brown, more or less obscurely marked with transverse rufous bands; front and eyebrow rufous; line below the eyes and narrow nape-band white: beneath, throat pale ferruginous, sides of neck black; abdomen ochraceous, thickly covered by squarish black spots: whole length 6·2 inches, wing 3, tail 2·4, bill 1·3. *Female* similar.

*Hab.* Cayenne, Guiana, and Lower Amazonia.

| | | |
|---|---|---|
| *a.* Ad. st. | S. America. | Purchased. |
| *b.* Ad. st. | Cayenne. | H. C. Rothery [P.]. |
| *c.* Ad. sk. | Cayenne. | Sclater Coll. |
| *d.* Ad. sk. | Cayenne. | Salvin-Godman Coll. |
| *e, f.* ♂ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Sclater Coll. |
| *g.* ♂ ad.; *h, i.* ♀ ad.; *k.* ♂ jr. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *l.* ♂ ad. sk. | Camacusa, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *m.* Ad. sk. | Rio Negro (*Wallace*). | Sclater Coll. |
| *n.* Ad. sk. | Capim River, L. Amazons (*Wallace*). | Sclater Coll. |
| *o.* Ad. sk. | Lower Amazons (*Wallace*). | Salvin-Godman Coll. |

## 15. Bucco pulmentum.

Tamatia (Nyctactes) pulmentum, *Bp. et Verr. MS.*
Bucco pulmentum, *Sclater, P. Z. S.* 1855, p. 194, pl. 106, et 1857, p. 262; *id. Cat. A. B.* p. 270; *id. Monogr. Jac. and Puff-bds.* p. 97, pl. xxxi. fig. 2; *Scl. et Salv. P. Z. S.* 1873, p. 295; *iid. Nomencl.* p. 106; *Tacz. Orn. Pér.* iii. p. 126.
Chaunornis pulmentum, *Cab. et Hein. Mus. Hein.* iv. p. 146.

Similar to *B. tamatia*, but front of a rather deeper ferruginous, and spots on the belly darker and more numerous.

*Hab.* Upper Amazonia and Ecuador.

| | | |
|---|---|---|
| *a.* Ad. st. | E. Peru. | Purchased. |
| *b.* Ad. sk. | E. Peru. | Purchased. |
| *c.* Ad. sk. | Upper Amazons. | Sclater Coll. (Type of the species.) |
| *d, e.* Ad. sk. | Chamicuros, E. Peru (*Bartlett*). | Sclater Coll. |

| | | |
|---|---|---|
| *f.* Ad. sk. | Chamicuros, E. Peru. | E. Bartlett [C.]. |
| *g.* Ad. sk. | Chamicuros, E. Peru (*Bartlett*). | Salvin-Godman Coll. |
| *h.* Ad. sk. | Chamicuros, E. Peru. | Gould Coll. |
| *i.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *k, l.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *m.* Ad. sk. | ——? | Salvin-Godman Coll. |

### 16. Bucco maculatus.

Ispida brasiliensis nævia, *Briss. Orn.* iv. p. 524.
Alcedo maculata, *Gmel. S. N.* i. p. 451 ; *Lath. Ind. Orn.* i. p. 258.
Tamatia tamajac, *Levaill. Prom. et Guép.* Suppl. p. 44, t. F ; *Less. Tr. d'Orn.* p. 168.
Bucco somnolentus, *Licht. Doubl.* p. 8.
Capito maculatus, *Wagl. Syst. Av.* Capito, sp. 7 ; *Burm. Syst. Ueb.* ii. p. 289.
Tamatia somnolenta, *Sw. B. of Brazil*, t. 9.
Bucco maculatus, *Gray et Mitch. Gen. B.* i. p. 74 ; *Gray, List Fiss. B. M.* p. 48 ; *Scl. Ann. Nat. Hist.* ser. 2, xiii. 363 ; *id. Syn. Bucc.* p. 13 ; *id. P. Z. S.* 1855, p. 196 ; *id. Cat. A. B.* p. 271 ; *id. Monogr. Jac. and Puff-bds.* p. 99, pl. xxxii. ; *Scl. et Salv. Nomencl.* p. 106 ; *Berl. J. f. O.* 1887, p. 133 (Paraguay) ; *Scl. et Huds. Arg. Orn.* ii. p. 30.
Tamatia maculatus, *Bp. Consp.* i. p. 147.
Nyctastes maculatus, *Bp. Consp. Vol. Zyg.* p. 13.
Nystalus maculatus, *Cab. et Hein. Mus. Hein.* iv. p. 139.

Above blackish, spotted with ochraceous brown ; lores, superciliaries, and nuchal collar cinnamomeous ; tail black, with numerous narrow ochraceous cross-bars : beneath, chin white ; fore neck clear cinnamomeous ; belly white, upper part and flanks spotted with black ; bill bright red, culminal ridge and tip blackish : whole length 8 inches, wing 3·2, tail 2·8, bill 1·7. *Female* similar.

*Hab.* S.E. Brazil.

| | | |
|---|---|---|
| *a.* Ad. st. | S.E. Brazil. | Purchased. |
| *b.* Ad. sk. | Pernambuco, Brazil (*Forbes*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Pernambuco, Brazil (*Forbes*). | Sclater Coll. . |
| *d–h.* Ad. sk. | Bahia (*Wucherer*). | Salvin-Godman Coll. |
| *i.* Ad. sk. | Bahia. | Sclater Coll. |
| *k.* Ad. sk. | Bahia. | Tweeddale Coll. |
| *l–o.* Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *p.* ♂ ad. sk. | Rio Claro, Goyaz, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *q.* ♂ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |

### 17. Bucco striatipectus.

Bucco striatipectus, *Sclater, P. Z. S.* 1853, p. 123, et 1855, p. 196 ; *id. Ann. N. H.* ser. 2, xiii. p. 364 ; *id. Syn. Bucc.* p. 14 ; *id. Cat. A. B.* p. 271 ; *id. Monogr. Jac. and Puff-bds.* p. 101, pl. xxxiii. ; *Scl. et Salv. Nomencl.* p. 106 ; *iid. P. Z. S.* 1879, p. 633.
"Nyctastes flammulatus, *Verr.*," *Bp. Consp. Vol. Zyg.* p. 13.
Bucco maculatus, *Pelz. Sitz. Ak. Wien*, xx. p. 509 ; *id. Orn. Bras.* p. 22.
Nystalus striatipectus, *Cab. et Hein. Mus. Hein.* iv. p. 140.

Similar to *B. maculatus*, but belly-spots passing into long black striations.

*Hab.* Bolivia and interior of Brazil.

| | | |
|---|---|---|
| *a.* Ad. sk. | Bolivia. | P. L. Sclater [P.]. |
| *b.* Ad. sk. | Bolivia. | Sclater Coll. |

### 18. Bucco chacuru.

El Chacuru, *Azara, Apunt.* ii. p. 330.
Bucco chacuru, *Vieill. Nouv. Dict.* iii. p. 239; *id. Enc. Méth.* p. 1420 (*ex Azara*, no. 261); *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 48; *Sclater, Ann. N. H.* ser. 2, xiii. p. 362; *id. Syn. Bucc.* p. 12; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 271; *id. Monogr. Jac. and Puff-bds.* p. 103, pl. xxxiv.; *Pelz. Sitz. Ak. Wien*, xx. p. 508; *Reinh. Fuglef. Camp. Bras.* p. 120; *Scl. et Salv. Nomencl.* p. 106; *iid. P. Z. S.* 1879, p. 633; *Berl. J. f. O.* 1887, pp. 23, 121 (Paraguay); *Tacz. Orn. Pér.* iii. p. 129; *Berl. J. f. O.* 1889, p. 308.
Capito melanotis, *Temm. Pl. Col.* 94; *Wagl. Syst. Av.* Capito, sp. 5; *Max. Beitr.* iv. p. 359; *Tsch. Faun. Per., Orn.* p. 259; *Burm. Syst. Ueb.* ii. p. 287.
Bucco strigilatus, *Licht. Doubl.* p. 8.
Tamatia melanotis, *Less. Tr. d'Orn.* p. 167.
Capito chacuru, *Strickl. Ann. Nat. Hist.* vi. p. 418; *Hartl. Syst. Ind. Azara*, p. 17.
Tamatia leucotis, *Sw. Orn. Dr.* pl. 10.
Bucco leucotis, *Gray et Mitch. Gen. B.* i. p. 74.
Tamatia chacuru, *Bp. Consp.* i. p. 146.
Tamatia leucotis, *Bp. Consp.* i. p. 147.
Nyctastes chacuru, *Bp. Consp. Vol. Zyg.* p. 13.
Nystalus chacuru, *Cab. et Hein. Mus. Hein.* iv. p. 141.

Above brown, varied and cross-banded with irregular black lines and spots; head darker; sides of head black; lores, superciliaries, and nuchal collar white; tail blackish, with numerous rufous cross-bands: beneath white, with more or less ochraceous tinge; flanks barred with black; bill red; feet brown: whole length 7·7 inches, wing 3·3, tail 2·9, bill 1·4. *Female* similar.

*Hab.* Southern Brazil, Paraguay, and Bolivia.

| | | |
|---|---|---|
| *a.* Ad. st. | S.E. Brazil. | Ld. Stuart de Rothesay [P.]. |
| *b.* Ad. sk. | Rio, Brazil. | Sclater Coll. |
| *c.* Ad. sk. | Brazil. | Sclater Coll. |
| *d, e.* Ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *f.* ♂ ad. sk. | São Paulo, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Rio Claro, Goyaz, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *h, i.* Ad. sk.; *k.* ♂ ad. sk. | Chapada, Matto Grosso (*H. H. Smith*). | Salvin-Godman Coll. |
| *l, m.* Ad. sk. | Tilotilo, Yungas, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *n.* Skeleton. | | |

### 19. Bucco striolatus.

Bucco (Capito) striolatus, *Pelz. Sitz. Ak. Wien*, xx. p. 509.
Nystalus striolatus, *Cab. et Hein. Mus. Hein.* iv. p. 140.
Bucco striolatus, *Scl. et Salv. Ex. Orn.* p. 153, t. lxxvii.; *id. Nomencl.* p. 105; *Scl. Monogr. Jac. and Puff-bds.* p. 107, pl. xxxv.; *Pelz. Orn. Bras.* p. 22.

Above brownish black, with numerous irregular ochraceous cross-bands and spots; broad nape-band ochraceous; lores and slight superciliaries whitish; chin white; sides of the head and breast deep ochraceous, with distinct black striations, which are continued over the upper portion and sides of the white abdomen; tail blackish brown, with numerous ochraceous cross-bars; bill blackish, lower mandible yellowish at the base: whole length 7·5 inches, wing 3·3, tail 3·1, bill 1·6. *Female* similar.

*Hab.* Interior of Brazil and Eastern Ecuador.

The well-defined linear striations on the sides of the head and lower surface at once distinguish this species. The specimens from Ecuador are rather darker on the head and upper back, but not otherwise different.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Matto Grosso, Brazil (*Natterer*). | Sclater Coll. |
| *b*. ♂ ad. sk. | Chapada, Matto Grosso (*H. H. Smith*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Tilotilo, Yungas, Bolivia (*Buckley*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *e*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |

### 20. Bucco radiatus.

Bucco radiatus, *Sclater, P. Z. S.* 1853, p. 122, pl. 50, et 1855, pp. 136, 196; *id. Ann. N. H.* ser. 2, xiii. p. 361; *id. Syn. Bucc.* p. 11; *id. Cat. A. B.* p. 271; *id. Monogr. Jac. and Puff-bds.* p. 109, pl. xxxvi.; *Scl. et Salv. Nomencl.* p. 106; *iid. P. Z. S.* 1879, p. 536; *Pelzeln, Ibis*, 1875, p. 330; *Berl. et Tacz. P. Z. S.* 1883, p. 572 (W. Ecuador).
Capito ruficervix, *Bp. Consp. Vol. Zyg.* p. 13.
Nystalus radiatus, *Cab. et Hein. Mus. Hein.* iv. p. 141.

Above chestnut-brown, transversely barred with black; nuchal collar and sides of head pale fulvous, with narrow black cross-bands; lores whitish; occiput and top of back blacker: beneath dirty white or pale ochraceous; fore neck, breast, and flanks traversed by more or less numerous narrow black bars; wings and tail bright chestnut-red, crossed by numerous black bands; bill plumbeous; feet brown: whole length 7·8 inches, wing 3·5, tail 2·9, bill 1·4. *Female* similar.

*Hab.* Colombia, Veragua, and Ecuador.

The narrow black cross-bars on the neck and breast distinguish this species from the two preceding ones.

| | | |
|---|---|---|
| *a*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *b*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *c*, *d*. Ad. sk. | Balzar Mts., Ecuador. | Salvin-Godman Coll. |
| *e*. Ad. sk. | Bogota. | Sclater Coll. (Type of the species.) |
| *f*. Ad. sk. | Bogota. | Sclater Coll. |
| *g*. Ad. sk. | Bogota. | Purchased. |
| *h*. Ad. st. | Bogota. | Purchased. |
| *i*, *k*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *l*. Ad. sk. | Remedios, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *m*. Ad. sk. | Remedios, Antioquia (*Salmon*). | Sclater Coll. |
| *n*. ♂ ad. sk. | Nichi, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *o*. ♀ ad. sk. | Nichi, Antioquia (*Salmon*). | Sclater Coll. |
| *p*. Ad. sk. | Panama. | Sclater Coll. |
| *q*. Ad. sk. | Veragua (*Arcé*). | Salvin-Godman Coll. |
| *r*. Ad. st. | S. America. | Purchased. |

## 2. MALACOPTILA.

Type.

Malacoptila, *Gray, List of Gen.* p. 13 (1841) ..... M. fusca.

*Malacoptila*, according to the limits I have assigned to it in my Monograph, embraces seven species distributed over the mainland of the Neotropical Region from Guatemala to S.E. Brazil. The genus is nearly allied to *Bucco*, but distinguished by its weaker and more incurved bill, and rather longer and more rounded tail.

*Key to the Species.*

A. Pectoral spot white; no band beneath.
- Cap blackish, striated with fulvous .... 1. *fusca*, p. 193.
- Cap cinereous, striated with white .... 2. *rufa*, p. 194.

B. Pectoral spot white, with a black band beneath ..... 3. *torquata*, p. 195.

C. No pectoral spot: throat rufous.

*a*. Cap not distinctly striated.
- Breast striated ..... 4. *panamensis*, p. 196.
- Breast almost uniform ..... 5. *inornata*, p. 197.

*b*. Cap distinctly striated.
- Belly strongly striated ..... 6. *fulvigularis*, p. 198.
- Belly indistinctly striated ..... 7. *substriata*, p. 198.

### 1. Malacoptila fusca.

White-breasted Barbet, *Lath. Syn.* i. p. 505; *id. Gen. Hist.* iii. p. 219.

Bucco fuscus, *Gmel. S. N.* i. p. 408; *Lath. Ind. Orn.* i. p. 206; *Vieill. Nouv. Dict.* iii. p. 239; *id. Enc. Méth.* p. 1419.

Le Tamatia brun, *Levaill. Ois. de Par.* ii. p. 99, t. 43.

Lypornix torquata (jun.), *Wagl. Syst. Av.* Lypornix, sp. 4.

Tamatia fusca, *Less. Tr. d'Orn.* p. 168.

Malacoptila fusca, *Gray, List Gen. B.* p. 13; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 474; *id. Syn. Bucc.* p. 15; *id. P. Z. S.* 1855, pp. 136, 196; *id. Cat. A. B.* p. 272; *id. Monogr. Jac. and Puff-bds.* p. 111, pl. xxxvii.; *Bp. Consp. Vol. Zyg.* p. 13; *Cab. et Hein. Mus. Hein.* iv. p. 132; *Scl. et Salv. P. Z. S.* 1867, pp. 583, 752, 1873, p. 295;

*iid. Nomencl.* p. 106; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 131.

Monasa fusca, *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 49; *Bp. Consp.* i. p. 147; *Strickl. Contr. Orn.* 1852, p. 43; *Pelz. Sitz. Ak. Wien*, xx. p. 513; *id. Orn. Bras.* p. 23.

Monasa unitorques, *Du Bus, Bull. Ac. Brux.* xiv. pt. 2, p. 107; *Lafr. Rev. Zool.* 1848, p. 248.

Malacoptila inornata, *Scl. P. Z. S.* 1855, p. 196 (err.).

Malacoptila nigrifusca, *Scl. P. Z. S.* 1855, p. 195; *id. Cat. A. B.* p. 272.

Malacoptila unitorques, *Scl. P. Z. S.* 1858, p. 60; *id. Cat. A. B.* p. 272.

Malacoptila nigritorques, *Cab. et Hein. Mus. Hein.* iv. p. 132.

Above brown, cap darker; all the feathers with fulvous shaft-stripes; lores white; wings and tail nearly uniform externally: beneath as above, but paler; broad band across the upper breast white; middle of belly whitish; bill horn-colour, yellowish at the base; feet brown: whole length 6·3 inches, wing 3·5, tail 2·4, bill from gape 1·2. *Female* similar.

*Hab.* Guiana, Colombia, Ecuador, and Amazonia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Cayenne. | Sclater Coll. |
| *b.* Ad. sk. | Bogota. | Sclater Coll. |
| *c.* Ad. st. | Bogota. | Purchased. |
| *d.* Ad. sk. | Peruvian Amazons. | Sclater Coll. |
| *e.* ♂ ad. sk. | Chyavetas, Peruvian Amazons (*Bartlett*). | Salvin-Godman Coll |
| *f.* ♂ ad. sk. | Chamicuros, Peru. | Sclater Coll. |
| *g.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *h*, *i.* Ad. sk.; *k.* Pull. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Rio Negro (*Wallace*). | Salvin-Godman Coll. |
| *m.* Ad. sk. | Lower Amazons (*Wallace*). | Purchased. |
| *n.* Ad. sk. | Upper Amazons (*Bates*). | Purchased. |
| *o.* Ad. sk. | Demerara River. | J. T. Quelch, Esq. [P.]. |

## 2. Malacoptila rufa.

Bucco rufus, *Spix, Av. Bras.* i. p. 52, t. 40. fig. 1; *Hahn, Orn. Atl.* Bucco, t. 4.

Lypornix rufa, *Wagl. Syst. Av.* Lypornix, sp. 5.

Capito senilis, *Tsch. Faun. Per., Aves*, p. 259.

Monasa rufa, *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 50; *Bp. Consp.* i. p. 147; *Pelz. Sitz. Ak. Wien*, xx. p. 513; *id. Orn. Bras.* p. 23.

Malacoptila rufa, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 475; *id. Syn. Bucc.* p. 15; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 272; *id. Monogr. Jac. and Puff-bds.* p. 115, pl. xxxviii.; *Cab. et Hein. Mus. Hein.* iv. p. 130; *Scl. et Salv. P. Z. S.* 1867, p. 583, et 1873, p. 295; *iid. Nomencl.* p. 106; *Tacz. P. Z. S.* 1874, p. 548, et 1882, p. 44 (Peru); *id. Orn. Pér.* iii. p. 130.

Scotocharis rufa, *Bp. Consp. Vol. Zyg.* p. 13.

Above rufous; wings and tail brown, with edgings like the back; cap cinereous, with narrow white shaft-stripes; front, sides of head,

and nape orange-rufous: beneath pale fulvous; middle of belly nearly white; broad pectoral band clear white, bordered by a slight black margin beneath; under wing-coverts white; bill dark horn-colour, yellowish at the base: whole length 7 inches, wing 3·5, tail 2·6. *Female* similar.

*Hab.* Amazonia and N. Brazil.

| | | |
|---|---|---|
| *a*, *b*. Ad. st. | Para, Lower Amazons. | R. Graham [P.]. |
| *c*. ♀ ad. sk. | Para (*Wallace*). | Sclater Coll. |
| *d*, *e*. Ad. sk. | Pernambuco, Brazil (*Craven*). | Sclater Coll. |
| *f*. Ad. sk. | Upper Amazons (*Bartlett*). | Salvin-Godman Coll. |
| *g*. Ad. sk. | Upper Amazons (*Bates*). | Purchased. |
| *h*. Ad. sk. | Upper Amazons (*Bates*). | Sclater Coll. |

### 3. Malacoptila torquata.

Bucco torquatus, *Hahn u. Küst. Vög. aus Asien*, Lief. xiii. p. 2, t. 5.
Bucco fuscus, *Licht. Doubl.* p. 8.
Bucco striatus, *Spix, Av. Bras.* i. p. 52, t. xl. fig. 2; *Hahn, Orn. Atlas*, Bucco, no. 5.
Monasa fusca, *Bp. Journ. Acad. Philad.* iv. p. 370; *id. Consp.* i. p. 147; *Gray et Mitch. Gen. B.* i. p. 74 (part.); *DuBus, Bull. Ac. Brux.* xiv. pt. 2, p. 107; *Gray, List Fiss. B. M.* p. 49; *Burm. Syst. Ueb.* ii. p. 290.
Lypornix torquata, *Wagl. Syst. Av.* Lypornix, sp. 4.
Capito fuscus, *Max. Beitr.* iv. p. 364.
Capito striatus, *Dubois, Orn. Gal.* p. 34, t. 22.
Lypornix striata, *Sw. Orn. Dr.* pl. 34.
Monasa torquata, *Strickl. Contr. Orn.* 1852, p. 43; *Pelz. Sitz. Ak. Wien*, xx. p. 512; *id. Orn. Bras.* p. 23.
Malacoptila torquata, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 475; *id. Syn. Bucc.* p. 16; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 272; *id. Monogr. Jac. and Puff-bds.* p. 117, pl. xxxix.; *Bp. Consp. Vol. Zyg.* p. 13; *Cab. et Hein. Mus. Hein.* iv. p. 130; *Scl. et Salv. Nomencl.* p. 106.

Above dark brown; head, back, and wing-coverts covered with ferruginous stripes; lores rufous; rictal plumes mixed with white: beneath pale fulvous, more rufous on the throat and breast; broad pectoral band white, bordered beneath by a distinct black band; under wing-coverts rufous: whole length 9 inches, wing 3·8, tail 3·9, bill from gape 1·3. *Female* similar.

*Hab.* S.E. Brazil.

The distinct black pectoral band beneath the broad white one at once distinguishes this species from the two preceding.

| | | |
|---|---|---|
| *a*. Ad. st. | S.E. Brazil. | Gould Coll. |
| *b*. Ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *c*. ♂ ad. sk. | Rio Claro, Goyaz, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *d*, *e*. Ad. sk. | Novo Fribourgo, Brazil (*Youds*). | Salvin-Godman Coll. |
| *f*–*h*. Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *i*–*m*. Ad. sk. | S.E. Brazil. | M. Claussen [P.]. |
| *n*. Skeleton. | S.E. Brazil. | Eyton Coll. |
| *o*. Ad. sk. | S. America. | Sclater Coll. |

### 4. Malacoptila panamensis.

Malacoptila panamensis, *Lafr. Rev. Zool.* 1847, p. 79; *Scl. P. Z. S.* 1855, p. 196, 1860, p. 297; *id. Ann. Nat. Hist.* ser. 2, xiii. p. 478; *id. Syn. Bucc.* p. 18; *id. Cat. A. B.* p. 273; *id. Monogr. Jac. and Puff-bds.* p. 119, pl. xl.; *Cass. Proc. Ac. Philad.* 1860, p. 134; *Cab. et Hein. Mus. Hein.* iv. p. 134; *Scl. et Salv. P. Z. S.* 1864, p. 363, 1879, p. 536; *iid. Nomencl.* p. 106; *Salv. P. Z. S.* 1870, p. 201; *Tacz. P. Z. S.* 1877, p. 333; *Bouc. P. Z. S.* 1878, p. 47; *Berl. et Tacz. P. Z. S.* 1885, p. 68 (Ecuador).
Bucco panamensis, *Gray et Mitch. Gen. B.* iii. App. p. 4.
Capito panamensis, *Bp. Consp.* i. p. 146.
Monasa mystacalis, *Lafr. Rev. Zool.* 1850, p. 215, t. 3.
Malacoptila mystacalis, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 477; *id. Syn. Bucc.* p. 18; *id. P. Z. S.* 1855, pp. 136, 196; *id. Cat. A. B.* p. 273; *Cab. et Hein. Mus. Hein.* iv. p. 138; *Scl. et Salv. Nomencl.* p. 106; *iid. P. Z. S.* 1875, p. 237; *Berl. J. f. O.* 1884, p. 315 (Bucaramanga).
Malacoptila aspersa, *Scl. P. Z. S.* 1853, p. 123; *id. Ann. Nat. Hist.* ser. 2, xiii. p. 477; *id. Syn. Bucc.* p. 17; *id. P. Z. S.* 1855, pp. 136, 196; *Cab. et Hein. Mus. Hein.* iv. p. 137.
Chaunornis panamensis, *Bp. Consp. Vol. Zyg.* p. 13.
Malacoptila poliopis, *Scl. P. Z. S.* 1862, p. 86, pl. viii.; *id. Cat. A. B.* p. 273; *Cab. et Hein. Mus. Hein.* iv. p. 136.
Malacoptila æquatorialis, *Cab. et Hein. Mus. Hein.* iv. p. 135.
Malacoptila costaricensis, *Cab. et Hein. Mus. Hein.* iv. p. 135.
Malacoptila blacica, *Cab. et Hein. Mus. Hein.* iv. p. 137.
Malacoptila inornata, *Scl. et Salv. P. Z. S.* 1864, p. 363.
Malacoptila panamensis poliopsis, *Berl. et Tacz. P. Z. S.* 1883, p. 572 (W. Ecuador).

Above brown, washed more or less with ferruginous, and spotted on the back and wings with pale fulvous shaft-spots; lores and rictal plumes partly white; throat and neck ferruginous; belly ashy brown, on the upper part more or less flammulated with white; flanks and crissum washed with ferruginous; bill horn-colour, yellowish at the base; feet brown; whole length 7 inches, wing 3·2, tail 3, bill from gape 1·2. *Female.* Paler and more greyish above; beneath, breast much lighter.

*Hab.* Costa Rica, Panama, Colombia, Venezuela, Ecuador, and Peru.

This, as shown in my Monograph, is, according to the view that I take, a very variable species. It may be possible to recognize four subspecies; but I doubt whether the specimens could be always discriminated without a previous knowledge of their localities.

#### a. Var. *costaricensis*.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *b*. ♀ ad. sk. | Costa Rica (*Carmiol*). | Sclater Coll. |
| *c*, *d*. ♂ ♀ ad.; *e*, *f*. Jr. sk. | Tucurriqui, Costa Rica (*Arcé*). | Salvin-Godman Coll. |
| *g*. ♀ ad. sk. | Dota, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *h*. ♀ ad. sk. | Peje, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |

b. Var. *typica*.

| | | |
|---|---|---|
| *i*, *k*. ♂ ♀ ad. sk. | Bugaba, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *l*, *m*. ♂ ♀ ad. sk. | Chorcha, Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *n*. ♂ ad. sk. | S. slope of Volc. of Chiriqui (*Arcé*). | Salvin-Godman Coll. |
| *o*, *p*. ♂ ♀ ad. sk. | Chiriqui (*Arcé*). | Sclater Coll. |
| *q*, *s*. ♂ ad.; *t*, *u*. ♀ ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |
| *r*. Ad. sk. | Panama. | O. Salvin, Esq. [P.]. |

c. Var. *mystacalis*.

| | | |
|---|---|---|
| *w*, *x*. ♂ ♀ ad. sk. | Remedios, Antioquia (*Salmon*). | Sclater Coll. |
| *y*. ♂ ad. sk. | Nichi, Antioquia (*Salmon*). | Salvin-Godman Coll. |
| *z*. ♂ ad. sk. | Antioquia (*Salmon*). | Sclater Coll. |
| *a'*. ♂ ad. sk. | Bogota. | Sclater Coll. |
| *b'*. Ad. sk. | Bogota. | Purchased. |
| *c'*. ♂ ad. sk. | Bogota. | Salvin-Godman Coll. |
| *d'*. Ad. st. | Bogota. | Purchased. |
| *e'*. Ad. st. | Venezuela (*Dyson*). | Purchased. (Type of *M. aspersa*.) |
| *f'*. ♂ ad. sk. | San Cristobal, Venezuela (*Goering*). | Sclater Coll. |

d. Var. *æquatorialis*.

| | | |
|---|---|---|
| *g'*, *h'*. ♂ ad. sk. | Balzar Mts., Ecuador (*Illingworth*). | Salvin-Godman Coll. |
| *i'*–*m'*. ♂ ad. sk. | Esmeraldas, Ecuador (*Fraser*). | Sclater Coll. |
| *n'*, *o'*. ♂ ♀ ad. sk. | Esmeraldas, Ecuador (*Fraser*). | Sclater Coll. (Types of *M. poliopsis*.) |

### 5. Malacoptila inornata.

Monasa inornata, *DuBus*, *Bull. Acad. Brux.* xiv. pt. 2, p. 107 : *Lafr. Rev. Zool.* 1848, p. 249 ; *Gray et Mitch. Gen. B.* iii. App. p. 4 ; *Bp. Consp.* i. p. 147.

Malacoptila inornata, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 478 ; *id. Syn. Bucc.* p. 19 ; *id. P. Z. S.* 1855, p. 196 ; *id. Cat. A. B.* p. 273 ; *id. Monogr. Jac. and Puff-bds.* p. 125, pl. xli. ; *Cab. et Hein. Mus. Hein.* iv. p. 137 ; *Salv. P. Z. S.* 1870, p. 201 ; *Scl. et Salv. Nomencl.* p. 106.

Malacoptila veræ-pacis, *Scl. et Salv. Ibis*, 1860, p. 40 ; *Scl. Cat. A. B.* p. 273 ; *Cab. et Hein. Mus. Hein.* iv. p. 139.

Similar to *M. panamensis*, but male beneath nearly wholly rufous, slightly paler on the lower belly, and with but very slight traces of darker flammulations.

*Hab.* Guatemala.

| | | |
|---|---|---|
| *a*. Ad. sk. | British Honduras (*Blancaneaux*). | Salvin-Godman Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Choctum, Vera Paz (*Salvin*). | Sclater Coll. |
| *d*, *e*. ♂ ♀ ad. sk. | Choctum, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *f*. Ad. sk. | Choctum, Vera Paz. | O. Salvin, Esq. [P.]. |
| *g*. ♂ ad. sk. | Coban, Vera Paz (*Constancia*). | Salvin-Godman Coll. (Types of *M. veræ-pacis*.) |

| | | |
|---|---|---|
| *h.* ♀ ad. sk. | Chisec, Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *i.* ♀ ad. sk. | Vera Paz (*Salvin*). | Salvin-Godman Coll. |
| *k, l.* ♂ ♀ ad. sk. | Guatemala (*Salvin*). | Salvin-Godman Coll. |
| *m.* ♀ ad. sk. | Guatemala (*Salvin*). | Sclater Coll. |
| *n.* ♂ jr. sk. | Guatemala. | Sclater Coll. |

### 6. Malacoptila fulvigularis.

"Lypornix rufa, *Wagl.*," *Tsch. Faun. Per., Aves*, pp. 41, 257.
Malacoptila fulvogularis, *Scl. P. Z. S.* 1853, p. 123, 1855, p. 196; *id. Ann. Nat. Hist.* ser. 2, xiii. p. 476; *id. Syn. Bucc.* p. 16; *id. Monogr. Jac. and Puff-bds.* p. 127, pl. xlii.; *Cab. et Hein. Mus. Hein.* iv. p. 131; *Scl. et Salv. Nomencl.* p. 106; *id. P. Z. S.* 1879, p. 633; *Berl. et Tacz. P. Z. S.* 1885, pp. 68, 108 (Ecuador); *Tacz. Orn. Pér.* iii. p. 132.
Malacoptila pyrrholæma, *Bp. Consp. Vol. Zyg.* p. 13.

Above brown, varied with paler colour; whole head, upper back, and sides of neck blackish, with distinct white or ochreous white shaft-stripes on all the feathers; rictal plumes partly white; lores and throat fulvous; breast and flanks black, with shaft-stripes as on the head, but broader and more distinct; lower belly and crissum fulvous white; tail brownish cinereous, paler beneath: whole length 7·2 inches, wing 3·9, tail 3·9, bill 1·2.

*Hab.* Bolivia.

This is quite a distinct species, readily known by its strongly striated head and breast and the fulvous throat.

| | | |
|---|---|---|
| *a.* Ad. sk. | Tilotilo, Yungas, Bolivia (*Buckley*). | Salvin-Godman Coll. |

### 7. Malacoptila substriata.

Malacoptila substriata, *Scl. P. Z. S.* 1853, p. 123, pl. li., 1855, pp. 136, 196; *id. Ann. Nat. Hist.* ser. 2, xiii. p. 476; *id. Syn. Bucc.* p. 17; *id. Cat. A. B.* p. 273; *id. Monogr. Jac. and Puff-bds.* p. 129, pl. xliii.; *Cab. et Hein. Mus. Hein.* iv. p. 134; *Scl. et Salv. Nomencl.* p. 106.

Above brown, varied with pale brown; fore part and sides of head darker, and striated with long narrow shaft-stripes of fulvous white; lores and rictal plumes partly white; chin and throat fulvous; breast and flanks striated like the head, but stripes broader; middle of belly and crissum pale fulvous whitish; tail rufous brown, beneath paler: whole length 7 inches, wing 3·6, tail 3·8, bill from gape 1·1.

*Hab.* Colombia.

This species is nearly allied to *M. fulvigularis*, and perhaps hardly distinct; but the shaft-stripes on the head and lower surface of the present bird are more fulvous and not so well defined, and do not extend over the nape and upper back.

| | | |
|---|---|---|
| *a.* Ad. sk. | Bogota. | Sclater Coll. (Type of the species.) |
| *b.* Ad. sk. | Bogota. | Sclater Coll. |

## 3. MICROMONACHA.

Type.
Micromonacha, *Scl. P. Z. S.* 1881, p. 777 ..... M. lanceolata.

Under this name I proposed, in 1881, to isolate the little *Bucco lanceolatus* of Deville from the Upper Amazons. *Micromonacha* is apparently more nearly allied to *Malacoptila* than to *Bucco*, and seems to be best placed as an intermediate form between *Malacoptila* and *Nonnula*, differing from the former by its short tail, and from the latter by its shorter and stronger bill. In coloration *Micromonacha* is conspicuously different from all other *Bucconidæ*.

### 1. Micromonacha lanceolata.

Bucco lanceolata, *Deville, Rev. et Mag. de Zool.* 1849, p. 56; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 363; *id. Syn. Bucc.* p. 13, pl. 3; *id. P. Z. S.* 1855, p. 196; *Scl. et Salv. Nomencl.* p. 106; *Tacz. Orn. Pér.* iii. p. 127.

Capito lanceolatus, *Bp. Consp. Vol. Zyg.* p. 13; *Des Murs, An. nouv. ou rares de l'Exp. de Castelnau, Ois.* p. 30.

Nystalus lanceolatus, *Cab. et Hein. Mus. Hein.* iv. p. 142.

Micromonacha lanceolata, *Scl. P. Z. S.* 1881, p. 777; *id. Monogr. Jac. and Puff-bds.* p. 131, pl. xliv.

Above rufescent brown; rump-feathers slightly margined with fulvous; lores and frontal plumes white, separated from the cap by a narrow black margin: beneath white, with conspicuous black shaft-stripes; crissum rufous; tail above like the back, beneath more cinereous, with a black submarginal band on the lateral rectrices; under wing-coverts buffy white: whole length 4 inches, wing 2·6, tail 1·8, bill 1. *Female* similar.

*Hab.* Upper Amazonia and Western Ecuador.

| | | | |
|---|---|---|---|
| *a, b.* | Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *c, d.* | Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |

## 4. NONNULA.

Type.
Nonnula, *Scl. P. Z. S.* 1853, p. 124 ..... N. rubecula.

This genus embraces the smallest and most feeble members of the family. They are nearly allied to *Malacoptila* and *Monacha*, but distinguished by their longer and less elevated bill, and from the former by their longer tail and weaker feet.

The five species of *Nonnula* are distributed over Colombia, Amazonia, and Brazil.

*Key to the Species.*

A. Cap cinereous; lores and eye-rim white:
breast darker, more rufous ..... 1. *rubecula*, p. 200.
breast paler, less rufous ..... 2. *cineracea*, p. 200.
B. Cap chestnut ..... 3. *ruficapilla*, p. 200.
C. Cap brown:
front more or less rufescent ..... 4. *frontalis*, p. 201.
front uniform with back ..... 5. *brunnea*, p. 201.

### 1. Nonnula rubecula.

Bucco rubecula, *Spix, Av. Bras.* i. p. 51, t. 39. fig. 1.
Monaca phaioleuca, *Temm. Pl. Col.* 523. fig. 2.
Lypornix rubecula, *Wagl. Syst. Av.* Lypornix, sp. 6; *Sw. B. Brazil*, t. 35.
"Cuculus rufalbinus, *Temm.*," *Cuv. Règne An.* i. p. 455 (1829).
Monasa rubecula, *Less. Tr. d'Orn.* p. 157; *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 50; *Bp. Consp.* i. p. 147; *Burm. Syst. Ueb.* ii. p. 292; *Pelz. Sitz. Ak. Wien*, xx. p. 512; *id. Orn. Bras.* p. 23; *Reinh. Fuglef. Bras. Camp.* p. 121.
Monasa phaioleuca, *Temm. Tabl. Méth.* p. 55.
Nonnula rubecula, *Scl. P. Z. S.* 1853, p. 124, 1855, p. 196; *id. Cat. A. B.* p. 273; *id. Monogr. Jac. and Puff-bds.* p. 133, pl. xlv. fig. 1; *Cab. et Hein. Mus. Hein.* iv. p. 129; *Scl. et Salv. Nomencl.* p. 106.
Malacoptila rubecula, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 479; *id. Syn. Bucc.* p. 19.
Scotocharis rubecula, *Bp. Consp. Vol. Zyg.* p. 13.

Above brown, rather more cinereous on the head, darker on the wings and tail; lores, chin, and rim round the eye white: beneath pale fulvous, brighter and more rufous on the breast: middle of belly whitish; under wing-coverts pale cinnamomeous: whole length 5·5 inches, wing 2·5, tail 2·4, bill from gape 0·9. *Female* similar.

*Hab.* Lower Amazonia and S.E. Brazil.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Para (?). | Sclater Coll. |
| *b*. Ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | S.E. Brazil. | Purchased. |

### 2. Nonnula cineracea.

Nonnula cineracea, *Scl. P. Z. S.* 1881, p. 778; *id. Monogr. Jac. and Puff-bds.* p. 135, pl. xlv. fig. 2.

Similar to *N. rubecula*, but colour above more cinereous, and breast paler.

*Hab.* Upper Amazonia.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Rio Javari (*Bates*). | Purchased. (Type of the species.) |

### 3. Nonnula ruficapilla.

Lypornix ruficapilla, *Tsch. Wiegm. Arch.* 1844, pt. i. p. 300; *id. Faun. Per., Aves*, p. 258, t. 24. fig. 1.
Monasa ruficapilla, *Gray et Mitch. Gen. B.* i. p. 74; *Bp. Consp.* i. p. 147; *Pelz. Sitz. Ak. Wien*, xx. p. 512; *id. Orn. Bras.* p. 23.
Malacoptila ruficapilla, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 480; *id. Syn. Bucc.* p. 20.
Scotocharis ruficapilla, *Bp. Consp. Vol. Zyg.* p. 13.
Nonnula ruficapilla, *Scl. P. Z. S.* 1853, p. 124, et 1855, p. 196; *id. Cat. A. B.* p. 274; *id. Mongr. Jac. and Puff-bds.* p. 137, pl. xlvi. fig. 1; *Cab. et Hein. Mus. Hein.* iv. p. 129; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1873, p. 295; *iid. Nomencl.* p. 106; *Tacz. P. Z. S.* 1874, p. 548; *id. Orn. Pér.* iii. p. 136.

Above brown; cap chestnut; sides of the head and neck and nape cinereous: beneath, throat, breast, and middle of belly clear ferruginous; lower belly and crissum whitish; flanks more or less cinereous: whole length 5·7 inches, wing 2·4, tail 2·2, bill from gape 1. *Female* similar.

*Hab.* Upper Amazonia.

The chestnut cap distinguishes this species.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Villa Maria, Matogrosso (*Natterer*). | Sclater Coll. |
| *b.* Ad. sk. | Upper Ucayali (*Bartlett*). | Sclater Coll. |
| *c, d.* Ad. sk. | Upper Ucayali. | E. Bartlett [C.]. |
| *e.* ♂ ad. sk. | Samiria, Upper Amazons (*Hauxwell*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | E. Peru. | Sclater Coll. |

## 4. Nonnula frontalis.

Malacoptila frontalis, *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 479; *id. Syn. Bucc.* p. 20; *id. P. Z. S.* 1855, p. 136; *Lawr. Ann. Lyc. N. Y.* vii. p. 318.

Nonnula frontalis, *Scl. P. Z. S.* 1855, p. 196, 1858, p. 60; *id. Cat. A. B.* p. 274; *id. Monogr. Jac. and Puff-bds.* p. 139; *Cab. et Hein. Mus. Hein.* iv. p. 129; *Scl. et Salv. Nomencl.* p. 106.

Above brown; front and forehead more or less tinged with rufous; lores and eye-region cinereous: beneath ferruginous, more dusky on the sides; middle of belly and crissum whitish: whole length 5·7 inches, wing 2·3, tail 2·4, bill from gape 1.

*Hab.* Colombia and Panama.

This is a northern form of *N. ruficapilla*, but has only the front of the head rufous, and the cinereous colour of the sides of the head and nape not nearly so prominent.

| | | |
|---|---|---|
| *a.* Ad. sk. | Panama (*McLeannan*). | Salvin-Godman Coll. |
| *b.* Ad. sk. | Interior of Colombia. | Salvin-Godman Coll. |
| *c.* Ad. sk. | Interior of Colombia. | Sclater Coll. |
| *d, e.* Ad. sk. | Interior of Colombia. | Purchased. (Types of the species?) |

## 5. Nonnula brunnea.

Nonnula frontalis, *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, p. 752, et 1873, p. 295.

Nonnula brunnea, *Scl. Ibis*, 1881, p. 600; *id. Monogr. Jac. and Puff-bds.* p. 141, pl. xlvi. fig. 2; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 135.

Above nearly uniform brown; lores somewhat rufous: beneath dull ferruginous, more dusky on the sides; belly and crissum lighter, more cinnamomeous: whole length 5·5 inches, wing 2·5, tail 2·3, bill from gape 1·1. *Female* similar.

*Hab.* Colombia, Ecuador, and Peru.

This species is distinguished by its uniform upper surface, without any rufous on the cap.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Interior of Colombia. | Sclater Coll. |
| *c*. Ad. sk. | Interior of Colombia. | Salvin-Godman Coll. |
| *d*. Ad. sk. | Rio Napo. | Purchased. |
| *e*, *f*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *g*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. (Types of the species.) |

## 5. HAPALOPTILA.

| | Type. |
|---|---|
| Hapaloptila, *Scl. P. Z. S.* 1881, p. 777 | H. castanea. |

This is a large form with a strong hooked bill and well-developed rictal bristles. In structure it is nearly allied to *Monacha*, but has the bill broader at the base, a shorter tail, and rather longer tarsi. In coloration it is perhaps more like *Malacoptila*.

*Hapaloptila* is found in Ecuador and Colombia.

### 1. Hapaloptila castanea.

Malacoptila castanea, *Verr. Rev. Zool.* 1866, p. 355, t. xix.; *Scl. et Salv. Nomencl.* p. 106; *iid. P. Z. S.* 1879, p. 536.

Hapaloptila castanea, *Scl. P. Z. S.* 1881, p. 777; *id. Monogr. Jac. and Puff-bds.* p. 143, pl. xlviii.; *Tacz. et Berl. P. Z. S.* 1885, p. 116 (Ecuador).

Above cinereous with an olivaceous tinge, wings and tail darker; front white, with a distinct black border behind: beneath chestnut, throat white, rictal bristles black; bill and feet black: whole length 9 inches, wing 4·2, tail 3·7, bill from gape 1·7. *Female* similar.

*Hab.* Colombia and Ecuador.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Frontino, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *b*. Ad. sk. | Frontino, Antioquia, U. S. C. (*Salmon*). | Sclater Coll. |
| *c*, *d*. Ad. sk. | Imtaj, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *e*, *f*, *g*. Ad. sk. | Ecuador. | Salvin-Godman Coll. |
| *h*. Ad. sk. | Ecuador. | Sclater Coll. |

## 6. MONACHA.

| | Type. |
|---|---|
| Monasa (*scr.* Monacha), *Vieill. Analyse*, p. 27 (1816) | M. nigra. |
| Lypornix, *Wagler, Syst. Av.* (1827) | M. nigra. |
| Scotocharis, *Gloger, Froriep's Notizen*, xvi. p. 277 (1827) | M. nigra. |
| Monastes, *Nitzsch, Pterylogr.* p. 135 (1840) | M. nigra. |

The large size and lugubrious uniform plumage, relieved only by the bright red or yellow bill, render *Monacha* easily distinguishable

from all the other genera of this family. Further characteristics are the long, compressed, and incurved bill, and the elongated tail.

The seven species of *Monacha* range over the Neotropical mainland from Nicaragua to S.E. Brazil.

*Key to the Species.*

A. Bend of wing white.
  Bill red ..... 1. *nigra*, p. 203.
  Bill yellow ..... 2. *flavirostris*, p. 204.
B. Bend of wing uniform, not white.
  *a*. Front and throat white.
    *a'*. Smaller: head lighter:
      white throat broader ..... 3. *morpheus*, p. 204.
      white throat narrower ..... 4. *peruana*, p. 205.
    *b'*. Larger: head darker ..... 5. *grandior*, p. 205.
  *b*. Front white; throat black ..... 6. *pallescens*, p. 206.
  *c*. Front and throat black ..... 7. *nigrifrons*, p. 206.

## 1. Monacha nigra.

Cuculus niger, *P. L. S. Müll. Suppl. Linn. Natursyst.* p. 90.
Coucou noir de Cayenne, *Daub. Pl. Enl.* 512; *Buff. Hist. Nat.* vi. p. 416.
Cuculus ater, *Bodd. Tabl. d. Pl. Enl.* p. 30.
Corvus australis, *Gm. S. N.* i. p. 377.
Bucco cinereus, *Gm. S. N.* i. p. 409; *Licht. Doubl.* p. 8.
Cuculus tranquillus, *Gm. S. N.* i. p. 417.
Bucco calcaratus, *Lath. Ind. Orn.* i. p. 206.
Le Barbacou à bec rouge, *Levaill. Ois. de Par.* ii. p. 103, tt. 44, 45.
Corvus affinis, *Shaw, Gen. Zool.* vii. p. 381.
Monasa tranquilla, *Vieill. Nouv. Dict.* xxi. p. 321; *id. Enc. Méth.* p. 1338; *Less. Tr. d'Orn.* p. 157; *Cab. in Schomb. Guian.* iii. p. 719; *Bp. Consp.* i. p. 147; *id. Consp. Vol. Zygod.* p. 13.
Wax-billed Barbet, *Lath. Gen. Hist.* iii. p. 232.
Lypornix tranquilla, *Wagl. Syst. Av.* Lypornix, sp. 1.
Monasa atra, *Gray, List Fiss. B. M.* p. 49; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 480; *id. Syn. Bucc.* p. 21; *id. P. Z. S.* 1855, p. 196; *id. Cat. A. B.* p. 274; *Pelz. Sitz. Ak. Wien*, xx. p. 511; *id. Orn. Bras.* p. 22; *Cass. Pr. Acad. Sci. Philad.* 1860, p. 135; *Cab. et Hein. Mus. Hein.* iv. p. 126; *Scl. et Salv. Nomencl.* p. 106; *Salv. Ibis*, 1886, p. 63 (Brit. Guiana).
Monacha nigra, *Scl. Monogr. Jac. and Puff-bds.* p. 145, pl. xlviii.: *Tacz. et Berl. P. Z. S.* 1885, p. 118 (Ecuador).

Above black; bend of wing and edgings of wing-coverts white: beneath rather paler and more cinereous; under wing-coverts white; bill coral-red; feet black: whole length 10·5 inches, wing 4·7, tail 4·7, bill from gape 1·7. *Female* similar.

*Hab.* Guiana, Cayenne, and Lower Amazonia.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. st. | British Guiana. | Sir R. Schomburgk [C.]. |
| *d*. ♀ ad. sk. | Camacusa, British Guiana (*Whitely*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *e.* ♂ ad. sk. | R. Atapurow, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *f, g.* ♂ ♀ ad. sk. | Merumé Mts., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *h.* ♂ ad. sk. | Merumé Mts., British Guiana (*Whitely*). | Sclater Coll. |
| *i.* Ad. sk. | British Guiana (*Brown*). | Sclater Coll. |
| *k.* Ad. sk. | Oyapock, Cayenne (*Verdey*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Cayenne. | Sclater Coll. |
| *m.* Ad. sk. | Cayenne. | J. H. Gurney, Esq. [P.]. |
| *n.* Ad. sk. | Amazonia. | Salvin-Godman Coll. |

## 2. Monacha flavirostris.

Monasa flavirostris, *Strickl. Contr. Orn.* 1850, p. 47, t. 48; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 481; *id. Syn. Bucc.* p. 21; *id. P. Z. S.* 1855, pp. 136, 196; *id. Cat. A. B.* p. 274; *Cab. et Hein. Mus. Hein.* iv. p. 127; *Scl. et Salv. P. Z. S.* 1867, p. 752, 1873, p. 295; *iid. Nomencl.* p. 106; *Tacz. Orn. Pér.* iii. p. 132.

Monasa axillaris, *Lafr. Rev. Zool.* 1850, p. 216; *Cassin, Pr. Acad. Sci. Philad.* 1860, p. 135.

Monacha flavirostris, *Scl. Monogr. Jac. and Puff-bds.* p. 149, pl. xlix.

Above and beneath black; bend of wing and under wing-coverts white; bill yellow; feet black: whole length 7·9 inches, wing 4·2, tail 4, bill 1·1. *Female* similar.

*Hab.* Colombia, Ecuador, and Upper Amazonia.

The smaller size, yellow bill, and uniform wing-coverts at once distinguish this species.

| | | |
|---|---|---|
| *a.* Ad. st. | Bogota. | Purchased. |
| *b, c.* Ad. sk. | Interior of Colombia. | Sclater Coll. |
| *d.* Ad. sk. | Interior of Colombia. | Salvin-Godman Coll. |
| *e.* Ad. sk. | Interior of Colombia. | Purchased. |
| *f, g.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *h.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *i.* ♀ ad. sk. | Chyavetas, Peru (*Bartlett*). | Salvin-Godman Coll. |

## 3. Monacha morpheus.

White-faced Barbet, *Lath. Gen. Hist.* iii. p. 233.

Bucco morphoeus, *Hahn u. Küst. Vög. aus Asien*, Lief. xiv. p. 1, t. 2.

Monasa personata, *Vieill. Gal. d. Ois.* i. p. 23, t. 36; *id. Enc. Méth.* p. 1339; *Less. Tr. d'Orn.* p. 157; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 481; *id. Syn. Bucc.* p. 22; *id. P. Z. S.* 1855, p. 196.

Bucco leucops, *Licht. Doubl.* p. 8.

Bucco albifrons, *Spix, Av. Bras.* i. p. 53, t. 41. fig. 1.

Lypornix leucops, *Wagl. Syst. Av.* Lypornix, sp. 3.

Capito leucops, *Max. Beitr.* iv. p. 368.

Tamatia leucops, *Sw. B. Brazil*, t. 12.

Monasa leucops, *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 49; *Bp. Consp.* i. p. 147; *id. Consp. Vol. Zyg.* p. 13;

*Burm. Syst. Ueb.* ii. p. 293; *Pelz. Sitz. Ak. Wien*, xx. p. 512; *id. Orn. Bras.* p. 22.

Monasa morpheus, *Cass. Proc. Acad. Sci. Philad.* 1860, p. 135; *Scl. Cat. A. B.* p. 274; *Cab. et Hein. Mus. Hein.* iv. p. 127; *Scl. et Salv. Nomencl.* p. 106.

Monacha morpheus, *Scl. Monogr. Jac. and Puff-bds.* p. 151, pl. 50.

Above dark slaty grey: beneath rather lighter on the belly; head and neck all round blacker; front and chin pure white; under wing-coverts light cinereous: bill coral-red, feet black: whole length 11·5 inches, wing 5·1, tail 5·2, bill 1·5. *Female* similar.

*Hab.* S.E. Brazil and Lower Amazonia.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *e*. Ad. sk. | S.E. Brazil. | M. Claussen [P.]. |
| *f*. Ad. sk. | Lower Amazons (*Wallace*). | Sclater Coll. |

### 4. Monacha peruana.

Monasa peruana, *Scl. P. Z. S.* 1855, p. 194, 1857, p. 262, 1858, p. 60; *id. Cat. A. B.* p. 275; *Cass. Proc. Acad. Sci. Philad.* 1860, p. 135; *Cab. et Hein. Mus. Hein.* iv. p. 128; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, p. 752, 1873, p. 295; *iid. Nomencl.* p. 106; *Tacz. P. Z. S.* 1874, p. 548, et 1882, p. 44 (Peru); *id. Orn. Pér.* iii. p. 134; *Berl. J. f. O.* 1889, p. 309.

Monacha peruana, *Scl. Monogr. Jac. and Puff-bds.* p. 153, pl. li.

Similar to *M. morpheus*, but rather smaller, and the white colour on the front and chin more restricted.

*Hab.* Upper Amazonia and Ecuador.

| | | |
|---|---|---|
| *a*. Ad. sk. | Ega, Upper Amazons. | Salvin-Godman Coll. |
| *b*. Ad. sk. | Ega, Upper Amazons. | Purchased. |
| *c*. Ad. sk. | Upper Amazons. | Sclater Coll. |
| *d*. Ad. sk. | E. Peru. | Purchased. |
| *e*, *f*. Ad. sk. | Chamicuros, E. Peru (*Bartlett*). | Sclater Coll. |
| *g*, *h*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *i*. Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |

### 5. Monacha grandior.

Monasa grandior, *Scl. et Salv. P. Z. S.* 1868, p. 327; *iid. Nomencl.* p. 106; *Salv. Ibis*, 1872, p. 322.

Monasa peruana, *Lawr. Ann. Lyc. N. Y.* ix. p. 118.

Monacha grandior, *Scl. Monogr. Jac. and Puff-bds.* p. 155, pl. lii.

Nearly similar to *M. morpheus*, but rather larger and head blacker.

*Hab.* Nicaragua and Costa Rica.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Angostura, Costa Rica (*Carmiol*). | Salvin-Godman Coll. (Type of the species.) |
| *b*. Ad. sk. | San Carlos, Costa Rica (*Carmiol*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Chontales, Nicaragua (*Belt*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | Chontales, Nicaragua. | Salvin-Godman Coll. |

### 6. Monacha pallescens.

Monasa pallescens, *Cass. Proc. Acad. Sci. Philad.* 1860, p. 134, et 1864, p. 287, t. iv.; *Wyatt, Ibis*, 1871, pp. 130, 374; *Scl. et Salv. Nomencl.* p. 106; *iid. P. Z. S.* 1879, p. 536; *Berl. J. f. O.* 1884, p. 318 (Bucaramanga).
Monacha pallescens, *Scl. Monogr. Jac. and Puff-bds.* p. 157, pl. liii.

Above and beneath dark cinereous: head and throat black; broad front white; bill coral-red, feet black: whole length 11·1 inches, wing 5·2, tail 4·7, bill from front 1·9. *Female* similar.

*Hab.* Northern Colombia.

This species is at once distinguished from the three former by its black throat.

| | | |
|---|---|---|
| *a.* Ad. sk. | Medellin, Antioquia, U. S. C. (*Salmon*). | Sclater Coll. |
| *b, c.* ♂ ♀ ad. sk. | Remedios, Antioquia, U. S. C. (*Salmon*). | Salvin-Godman Coll. |
| *d.* ♂ ad. sk. | Magdalena Valley, U. S. C. (*Wyatt*). | Sclater Coll. |
| *e.* Ad. sk. | Bogota. | Sclater Coll. |
| *f.* Ad. sk. | Bogota. | Salvin-Godman Coll. |

### 7. Monacha nigrifrons.

Bucco nigrifrons, *Spix, Av. Bras.* i. p. 53, t. 41. fig. 2.
Lypornix unicolor, *Wagl. Syst. Av.* Lypornix, sp. 2.
Monasa nigrifrons, *Gray et Mitch. Gen. B.* i. p. 74; *Gray, List Fiss. B. M.* p. 49; *Bp. Consp.* i. p. 147; *id. Consp. Vol. Zyg.* p. 13; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 481; *id. Syn. Bucc.* p. 22; *id. P. Z. S.* 1855, p. 196, 1858, p. 60; *id. Cat. A. B.* p. 274; *Burm. Syst. Ueb.* ii. p. 294; *Pelz. Sitz. Ak. Wien*, xx. p. 511; *id. Orn. Bras.* p. 22; *Cass. Proc. Acad. Sci. Philad.* 1860, p. 135; *Cab. et Hein. Mus. Hein.* iv. p. 127; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, pp. 583, 978, 1873, p. 295, 1879, p. 633; *iid. Nomencl.* p. 106; *Tacz. Orn. Pér.* iii. p. 133; *Berl. J. f. O.* 1889, p. 309.
Monacha nigrifrons, *Scl. Monogr. Jac. and Puff-bds.* p. 159, pl. liv.

Above and beneath dark cinereous, with slight bronzy tinge on the wings and tail: bill coral-red; feet black: whole length 10·4 inches, wing 4·11, tail 4·10, bill from gape 1·5. *Female* similar.

*Hab.* Amazonia and Bolivia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Rio Tocantins (*Wallace*). | Sclater Coll. |
| *b.* ♀ ad. sk. | Pebas, Peru (*Hauxwell*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Lower Ucayali. | E. Bartlett [C.]. |
| *d, e.* ♂ ♀ ad. sk. | Yquitos, Peru (*Whitely*). | Sclater Coll. |
| *f, g.* ♂ ♀ ad. sk. | Yquitos, Peru (*Whitely*). | Salvin-Godman Coll. |
| *h.* ♂ ad. sk. | Yquitos, Peru. | H. Whitely [C.]. |
| *i, k.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Sarayacu, Ecuador (*Buckley*). | Sclater Coll. |
| *m.* ♂ ad.; *n, o, p.* ♀ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |
| *q.* Ad. sk. | Bolivia (*Behn*). | Sclater Coll. |

## 7. CHELIDOPTERA.

Type.
Chelidoptera, *Gould, P. Z. S.* 1836, p. 81 ..... C. tenebrosa.

*Chelidoptera* is a well-marked form of *Bucconidæ*, differing from the other members of the family in its lengthened wings and shortened tail. The bill is also short and slender and much compressed.

This genus extends over the Neotropical mainland from Venezuela to S.E. Brazil.

*Key to the Species.*

A. Smaller: breast darker; belly more rufous .. 1. *tenebrosa*, p. 207.
B. Larger: breast lighter; belly more ochraceous. 2. *brasiliensis*, p. 208.

### 1. Chelidoptera tenebrosa.

Le petit Coucou noir de Cayenne, *Buff. Hist. Nat. Ois.* vi. p. 417; *Daub. Pl. Enl.* 505.

Cuculus tenebrosus, *Pallas, Neue Nord. Beytr.* iii. p. 2; *Gm. S. N.* i. p. 417; *Lath. Ind. Orn.* i. p. 221.

Le Barbacou à croupion blanc, *Levaill. Ois. de Par.* ii. p. 105, t. 46.

Monasa tenebrosa, *Vieill. Nouv. Dict.* xxi. p. 321; *id. Enc. Méth.* p. 1339; *Less. Tr. d'Orn.* p. 157.

White-rumped Cuckow, *Lath. Gen. Hist.* iii. p. 324.

Monasa tenebrio, *Temm. Pl. Col.* 323. fig. 1.

Lypornix tenebrosa, *Wagl. Syst. Av.* Lypornix, sp. 7.

Chelidoptera tenebrosa, *Gould, P. Z. S.* 1836, p. 81; *Gray et Mitch. Gen. B.* i. p. 75; *Cab. in Schomb. Guian.* iii. p. 720; *Gray, List Fiss. B. M.* p. 50; *Bp. Consp.* i. p. 148; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 482; *id. Syn. Bucc.* p. 23; *id. P. Z. S.* 1855, pp. 136, 196; *id. Cat. A. B.* p. 275; *id. Monogr. Jac. and Puff-bds.* p. 161, pl. lv. fig. 1; *Pelz. Sitz. Ak. Wien*, xx. p. 513; *id. Orn. Bras.* p. 23; *Cab. et Hein. Mus. Hein.* iv. p. 124; *Scl. et Salv. P. Z. S.* 1866, p. 192, 1867, pp. 583, 752, 1870, p. 781, 1873, pp. 186, 295; *iid. Nomencl.* p. 106; *Tacz. P. Z. S.* 1882, p. 44 (N.E. Peru); *id. Orn. Pér.* iii. p. 136; *Salv. Ibis*, 1886, p. 63 (Brit. Guiana); *W. L. Sclater, Ibis*, 1887, p. 318 (Brit. Guiana); *Berl. J. f. O.* 1889, p. 309.

Chelidoptera albipennis, *Bp. J. f. O.* 1853, p. 47; *Scl. Ann. Nat. Hist.* ser. 2, xiii. p. 483; *id. Syn. Bucc.* p. 24, t. iv.; *Cab. et Hein. Mus. Hein.* iv. p. 124.

Above bronzy black, rump white: beneath as above, upper part of belly passing into cinereous; lower belly chestnut; flanks, crissum, and under wing-coverts white; bill black, feet brownish black: whole length 5·7 inches, wing 4, tail 1·9, bill from gape 0·9.

*Female* similar.

*Hab.* Venezuela, Guiana, and Amazonia.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Merida, Venezuela (*Goering*). | Salvin-Godman Coll. |
| *b*. Ad. sk. | Trinidad (?). | Sclater Coll. |
| *c*, *d*. Ad. st. | British Guiana. | Sir R. Schomburgk [C.]. |

| | | |
|---|---|---|
| *e, f.* ♂ ♀ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Salvin-Godman Coll. |
| *g.* ♀ ad. sk. | Bartica Grove, Brit. Guiana (*Whitely*). | Sclater Coll. |
| *h, i.* ♂ ♀ ad. sk. | Roraima, British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *k, l.* ♀ ad. sk. | Merumé Mts., British Guiana (*Whitely*). | Salvin-Godman Coll. |
| *m.* Ad. sk. | British Guiana (*W. L. Sclater*). | Sclater Coll. |
| *n.* Ad. sk. | Maroni r., Surinam (*C. Bartlett*). | Sclater Coll. |
| *o.* ♀ ad. sk. | Oyapock, Cayenne (*Jelski*). | Salvin-Godman Coll. |
| *p.* Ad. sk. | Cayenne. | Sclater Coll. |
| *q.* Ad. sk. | Cayenne. | Salvin-Godman Coll. |
| *r.* Ad. sk. | Para (*Wallace*). | Sclater Coll. |
| *s, t.* ♂ ♀ ad. sk. | Para (*Layard*). | Tweeddale Coll. |
| *u.* Ad. sk. | Rio Negro (*Wallace*). | Salvin-Godman Coll. |
| *v, w.* Ad. sk. | Yquitos, Peru (*Whitely*). | Sclater Coll. |
| *x.* Ad. sk. | Yurimaguas, Peru (*Bartlett*). | Sclater Coll. |
| *y.* ♂ ad. sk. | Xeberos, Peru (*Bartlett*). | Salvin-Godman Coll. |
| *z.* ♀ ad. sk. | Xeberos, Peru (*Bartlett*). | Sclater Coll. |
| *a', b'.* ♂ ♀ ad. sk. | Chapada, Matto Grosso, Brazil (*H. H. Smith*). | Salvin-Godman Coll. |

### 2. Chelidoptera brasiliensis.

Bucco tenebrosus, *Licht. Doubl.* p. 8.
Capito tenebrosus, *Max. Beitr.* iv. p. 372.
Brachypetes tenebrosa, *Swains. Class. B.* ii. p. 334.
Lypornix tenebrosa, *Swains. B. Brazil*, t. 36.
Monasa tenebrosa, *Burm. Syst. Ueb.* ii. p. 294.
Chelidoptera brasiliensis, *Scl. Cat. A. B.* p. 275; *id. Monogr. Jac. and Puff-bds.* p. 165, pl. lv. fig. 2; *Scl. et Salv. Nomencl.* p. 106.

Similar to *C. tenebrosa*, but larger, breast more cinereous; belly lighter, more ochraceous.

*Hab.* S.E. Brazil.

| | | |
|---|---|---|
| *a.* Ad. st. | S.E. Brazil. | Gould Coll. |
| *b.* Ad. sk. | Pernambuco, Brazil (*Forbes*). | Sclater Coll. |
| *c.* Ad. sk. | Pernambuco, Brazil (*Forbes*). | Salvin-Godman Coll. |
| *d.* Ad. sk. | Bahia, Brazil (*Wucherer*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Santa Fé, Minas Geraes, Brazil (*Rogers*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Rio Claro, Goyaz, Brazil (*Joyner*). | Salvin-Godman Coll. |
| *g, h.* Ad. sk. | S.E. Brazil. | Sclater Coll. |
| *i.* Ad. sk. | S.E. Brazil. | M. Claussen [C.]. |

# Suborder COCCYGES.

(See vol. xvi. page 2.)

*Synopsis of the Families.*

I. Oil-gland nude; feet zygodactyle .... **Cuculidæ**, p. 209.
II. Oil-gland tufted; feet semi-zygodactyle ..... **Musophagidæ**, p. 435.

## Family CUCULIDÆ.

(By G. E. SHELLEY.)

Feet zygodactyle.

Palate desmognathous.

Basipterygoid processes absent.

Hallux connected with the flexor longus hallucis and not with the flexor perforans digitorum, which leads to the second, third, and fourth digits.

Tail-feathers ten (excepting *Guira* and *Crotophaga*, which have eight only).

*Pterylosis.* Dorsal tract furcate between the shoulders. No after-shaft to the feathers.

Cæca present.

Ranging over the whole of the globe.

*Key to the Subfamilies.*

*a.* Tail composed of ten feathers.
  *a'*. Upper tail-coverts ordinary, not reaching beyond the basal half of the tail.
    *a''*. Wing long and flat, not fitting to the body. Distance from the tip of the wing to the tip of the secondaries greater than the length of either the culmen or the tarsus ..... 1. *CUCULINÆ*, p. 210.
    *b''*. Wing shorter and curved to fit the body.
      *a'''*. Primaries extending distinctly beyond the secondaries; but the distance from the tip of the wing to the tip of the secondaries less than the length of either the culmen or the tarsus.

$a^4$. Hind claw straight, Lark-like ..... 2. *CENTROPODINÆ*, [p. 331.
$b^1$. Hind claw curved, ordinary.. 3. *PHŒNICOPHAINÆ*,
$b'''$. Primaries not extending beyond the secondaries ..... 4. *NEOMORPHINÆ*, [p. 367.
$b'$. Upper tail-coverts extremely long, reaching beyond the basal half of the tail nearly to its end..... 5. *DIPLOPTERINÆ*, [p. 414. [p. 423.
$b$. Tail composed of only eight feathers .. 6. *CROTOPHAGINÆ*, [p. 427.

## Subfamily I. CUCULINÆ.

*Key to the Genera.*

$a$. With a long crest; nasal aperture a linear oval ..... 1. COCCYSTES, p. 211.
$b$. Not crested.
$a'$. Bill moderate, never longer than the head or the tarsus.
$a''$. Bill broader than deep at nostrils. [p. 224.
$a'''$. Nasal aperture linear..... 2. PACHYCOCCYX,
$b'''$. Nasal aperture rounded..... 3. CALLIECHTHRUS,
$b''$. Bill narrower, not so wide as it is deep at nostrils. [p. 225.
$c'''$. Bill much more slender.
$a^4$. Tail square or forked, with the outer feather on each side short. General plumage black, with an oblique white band on the under surface of the quills; nostrils rounded and swollen ..... 4. SURNICULUS, p. 226.
$b^1$. Tail nearly square, with the outer feather on each side decidedly short. Tail brown, with about four complete blackish bars. Style of plumage Accipitrine .. 5. HIEROCOCCYX,
$c^4$. Tail square, rounded, or evenly graduated. Tail never brown, crossed with complete black bars. [p. 231.
$a^5$. Nostrils round and pierced in a swollen membrane.
$a^6$. With no metallic colours in the plumage. Sexes similar in plumage.
$a^7$. Tail fan-shaped.
$a^8$. Wings longer, reaching beyond the tail-coverts. Under surface of quills barred ..... 6. CUCULUS,* p. 240.

* Here will probably come..... 7. CERCOCOCCYX, p. 265.

$b^6$. Wings shorter, not reaching to the ends of the tail-coverts. Under surface of the wing with a single oblique white bar ..... 8. CACOMANTIS, p. 265.
$b^7$. Tail square ..... 9. MISOCALIUS, p. 279.
$b^8$. With the plumage brilliantly metallic. Sexes often differing in plumage.
$c^7$. Under surface of quills barred ..... 10. CHRYSOCOCCYX, [p. 280.
$d^7$. Under surface of quills with a single oblique pale bar ..... 11. CHALCOCOCCYX, [p. 288.
$b^5$. Nostrils oval ..... 12. COCCYZUS, p. 302.
$d'''$. Bill much stouter.
$d^4$. Bill not so broad at base, less compressed and less arched towards the tip. Quills: 4th longest or equal to 3rd, 2nd shorter than the 5th, 1st shorter than the 9th.
$c^5$. Culmen more evenly curved throughout. Tail more wedge-shaped. Sexes similar ..... 13. URODYNAMIS, p. 313.
$d^5$. Culmen less curved for the basal half. Tail less wedge-shaped. Sexes dissimilar .... 14. EUDYNAMIS, p. 315.
$e^4$. Bill broader at the base, more compressed and more arched. Quills: 3rd longest, 2nd longer than the 5th, 1st about equal to 6th ..... 15. MICRODYNAMIS,
$b'$. Bill very large and robust, longer than the head and longer than the tarsus. [p. 328.
$c''$. Bill smooth, nearly half as long again as the tarsus ..... 16. RHAMPHOMANTIS,
$d''$. Bill very large, and with a lateral groove on each side of the culmen, and more than twice the length of the tarsus ..... [p. 329.
17. SCYTHROPS, p. 329.

## 1. COCCYSTES.

Type.
Coccystes, *Gloger, Handb. Naturg.* p. 203 (1842) .... C. glandarius.
Oxylophus, *Swains. Classif. B.* ii. p. 322 (1837) ..... C. cafer.

*Range.* Southern Europe, Africa, and Tropical Asia.

*Key to the Species.*

*a*. Breast whitish.
*a'*. Wing-feathers with large terminal spots.. *glandarius*, p. 212.
*b'*. With no spots on the wing.
*a''*. With a white collar, and the greater portion of the wings rufous..... *coromandus*, p. 214.

*b''*. With no white collar and no rufous on the wings.
*a'''*. Throat and breast nearly uniform.
*a*⁴. Smaller: wing not exceeding 6·4 inches.
*a*⁵. Throat and underparts uniform buffy white ..... *jacobinus*, p. 217.
*b*⁵. Throat and underparts tinted with smoky grey ..... *hypopinarius*, p. 220.
*b*⁴. Larger: wing 6·7 inches, tail 8·9. Throat with a few indistinct shaft-stripes to the feathers ..... *caroli*, p. 221.
*b'''*. Throat very strongly streaked with black ..... *cafer*, p. 221.
*b*. Breast black like the rest of the plumage.
*d'*. With no white on the tail ..... *serratus*, p. 223.
*e'*. With a large white spot on the outer web of the two lateral tail-feathers ..... *albonotatus*, p. 224.

## 1. Coccystes glandarius.

The Great Spotted Cuckoo, *Edwards, Nat. Hist. B.* ii. p. 57, pl. 57 (1747).
Le Coucou d'Andalousie, *Briss. Orn.* iv. p. 126 (1760).
Cuculus glandarius, *Linn. Syst. Nat.* i. p. 167 (1766); *Temm. Pl. Col.* iii. pl. 414 (1826); *Naum. Vög. Deutschl.* v. pl. 130 (1826); *Brehm, Vög. Deutschl.* p. 154 (1831); *Temm. Man. d'Orn.* pt. iii. p. 294 (1835); *Werner, Atlas Zygodactyles, Suppl.* pl. 2; *Gould, B. Eur.* iii. pl. 241 (1837); *Nordm. in Démid. Voy. Russ. mérid.* iii. p. 208 (1840); *Schl. Rev. Crit.* p. 51 (1844); *Thompson, B. Irel.* i. p. 364 (1849); *Hewits. Ibis*, 1859, p. 76, pl. ii. figs. 1, 2; *Allen, Ibis*, 1862, pp. 357, 358; *Cochrane, Ibis*, 1863, p 361; *Chambers, Ibis*, 1863, p. 474; *Wright, Ibis*, 1864, p. 50; *Smith, Ibis*, 1868, p. 448; *Harting, Handb. Brit. B.* p. 123 (1872); *Wright, Ibis*, 1874, p. 232; *Danford, Ibis*, 1878, p. 7; *Seebohm, Hist. Brit. B.* ii. p. 386 (1884); *Reichen. J. f. O.* 1887, p. 58.
Coucou huppé noir et blanc, *Montb. Hist. Nat. Ois.* vi. p. 362 (1779).
Pisan Cuckow, *Lath. Gen. Syn.* i. pt. 2, p. 520 (1782).
Bee Cuckoo, *Bruce, Trav. Abyss.* v. App. p. 179 (1790).
Cuculus pisanus, *Gm. Syst. Nat.* i. p. 416 (1788).
Abyssinian Cuckow, *Lath. Gen. Syn. Suppl.* ii. p. 139 (1801).
Cuculus abyssinicus, *Lath. Ind. Orn. Suppl.* p. xxxi (1801).
Cuculus melissophonus, *Vieill. N. Dict. d'Hist. Nat.* viii. p. 230 (1817); *Bonn. et Vieill. Enc. Méth.* p. 1334 (1823).
Coccyzus pisanus, *Bonn. et Vieill. Enc. Méth.* p. 1349 (1823); *Savign. Desc. Egypte*, pl. iv. fig. 2; *Audouin, Expl. Somm.* p. 332 (1825); *Roux, Orn. Provenç.* pl. 68 (1826).
Coccystes pisanus, *Savi, Orn. Tosc.* i. p. 154 (1827).
Coccyzus glandarius, *Savi, Orn. Tosc.* i. p. 154 (1827); *Rüpp. Neue Wirb., Vög.* p. 62 (1835).
Cuculus gracilis, *Brehm, Vög. Deutschl.* p. 154 (1831).
Cuculus macrurus, *Brehm, t. c.* p. 153.
Coccystes glandarius, *Gloger, Handb. Vög. Eur.* p. 451 (1834); *Keys. u. Blas. Wirb. Eur.* p. 34 (1840); *Mühle, Beitr. Orn. Griechenl.* p. 29 (1844); *Heugl. Syst. Uebers.* p. 48 (1856);

*Linderm. Vög. Griechenl.* p. 39 (1860); *Heugl. J. f. O.* 1862, p. 34; *Cab. & Heine, Mus. Hein.* Th. iv. p. 44 (1863); *Schl. Mus. Pays-Bas*, Cuculi, p. 44 (1863); *Heugl. J. f. O.* 1864, p. 264; *Giglioli, Ibis*, 1865, p. 58; *Heugl. Orn. N.O.-Afr.* ii. p. 786 (1870); *Gray, Hand-l. B.* ii. p. 220, no. 9060 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 518 (1870); *Sharpe, Ibis*, 1870, p. 485; *id. Cat. Afr. B.* p. 12 (1871); *Salvad. Faun. Ital., Ucc.* p. 42 (1871); *Gurney in Anderss. B. Dam.-Ld.* p. 225 (1872); *Shelley, B. Egypt*, p. 162 (1872); *id. & Buckley, Ibis*, 1872, p. 286; *Sharpe, P. Z. S.* 1873, p. 593; *Antin. & Salvad. Viagg. Bogos*, p. 48 (1873); *Ussher, Ibis*, 1874, p. 52; *Dresser, B. Eur.* v. p. 219, pl. 300 (1874); *Reichen. J. f. O.* 1875, p. 3; *Krüper, J. f. O.* 1873, p. 27; *Gadow, t. c.* p. 401; *Irby, B. Gibr.* p. 69 (1875); *Bartlett, Ibis*, 1876, pp. 91, 200; *Blanf. East. Persia*, ii. p. 120 (1876); *Bocage, Orn. Angola*, p. 145 (1877–78); *Reichen. J. f. O.* 1877, p. 16; *Ayres, Ibis*, 1879, p. 298; *Newt. ed. Yarr. Brit. B.* ii. p. 408 (1881); *Giglioli, Ibis*, 1881, p. 191; *Salvin, Cat. Strickl. Coll.* p. 436 (1882); *B. O. U. List Brit. B.* p. 84 (1883); *Tristr. Faun. & Flor. Palest.* p. 90 (1884); *Sharpe, Journ. Linn. Soc.* xvi. p. 432 (1884); *id. ed. Layard's B. S. Afr.* p. 157 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 94 (1884); *Reid, Ibis*, 1885, p. 247; *Böhm, J. f. O.* 1885, pp. 41, 56; *Fischer, t. c.* p. 124; *Ayres, Ibis*, 1886, p. 291; *Giglioli, Avif. Ital.* p. 210 (1886); *Tait, Ibis*, 1887, p. 307; *Symonds, t. c.* p. 329; *Reichen. J. f. O.* 1887, p. 58; *Matsch. t. c.* p. 140; *Salvad. Elenc. Ucc. Ital.* p. 72 (1887); *id. Ann. Mus. Civic. Genov.* (2) vi. p. 215 (1888); *Norman, Ibis*, 1888, p. 397.

Oxylophus glandarius, *Bp. Comp. List B. Eur. & N. Amer.* p. 40 (1838); *Gray, Gen. B.* ii. p. 464 (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 74 (1849); *Bp. Comp.* i. p. 102 (1850); *Strickl. P. Z. S.* 1850, p. 219; *Brehm, Naum.* 1855, p. 271; *Hartl. Orn. W.-Afr.* p. 188 (1857); *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 338 (1859); *Salvin, Ibis*, 1859, p. 316; *Speke, Ibis*, 1860, p. 245; *Hartl. J. f. O.* 1861, p. 265; *Heugl. in Peterm. Mitth.* 1861, p. 25; *Gray, List Brit. B.* p. 118 (1863); *Gould, B. Gt. Brit.* iii. pl. 69 (1863); *Allen, Ibis*, 1864, p. 25; *Sel. P. Z. S.* 1866, p. 22; *Tristr. Ibis*, 1866, p. 64; *Lilford, t. c.* pp. 174, 187; *Tristr. t. c.* p. 281; *Degl. & Gerbe, Orn. Eur.* i. p. 164 (1867); *Taylor, Ibis*, 1867, p. 55; *Drake, t. c.* p. 425; *Loche, Expl. Sc. Algér., Ois.* ii. p. 74 (1867); *Layard, B. S. Afr.* p. 251 (1867); *Doderl. Avif. Sicil.* p. 54 (1869); *Drake, Ibis*, 1869, p. 152; *Saunders, t. c.* pp. 180, 401; *id. Ibis*, 1871, p. 66; *Fritsch, Vög. Eur.* p. 78, tab. xiii. fig. 12 (1871); *Pelz. Ibis*, 1873, p. 34; *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 210 (1881); *Irby, Ibis*, 1883, p. 179.

Cuculus phaiopterus, *Rüpp. in Mus. Lugd., fide Bp. Consp.* i. p. 102 (1850).

*Adult male.* Upper half of the head pale grey, with narrow black shafts to the feathers; remainder of the upper parts ashy brown; a well-marked and broad buff collar on the sides of the neck; all the wing-feathers with conspicuous white ends; upper tail-coverts often tipped with white and with a large amount of white on the outer ones; tail-feathers tipped with white, more broadly on the outer ones; under surface white, shaded with buff on the throat; under wing-coverts buff; quills brownish ashy, with small white tips. Iris dark brown; bil dusky black,

yellowish a the base of the lower mandible; legs leaden grey. Total length 16 inches, culmen 1·2, wing 8·5, tail 8·8, tarsus 1·3.

*Adult female.* Appears to resemble the male, but probably takes a considerable time to gain the full plumage, as most of the adult hen birds have a tinge of chestnut on the wing, though not so strongly developed as in the young birds. Total length 15·4 inches, culmen 1·2, wing 7·7, tail 8·8, tarsus 1·2.

*Immature.* Differs from the adult in having the upper half of the head black, the greater portion of the quills chestnut, and the throat darker and shaded with rufous.

*Hab.* Southern and Central Europe as far east as Persia, wintering in Africa.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Seville, Spain, May 13 (*Ruiz*). | Sharpe Coll. |
| *b.* ♀ ad. sk. | Aranjuez, Spain, May. | Seebohm Coll. |
| *c.* ♂ juv. sk. | Tangier (*Favier*). | Gould Coll. |
| *d.* ♂ ad. sk. | Tangier, March 20 (*G. E. S.*). | Shelley Coll. |
| *e.* ♀ ad. sk. | Ain Moudijat, Algeria, June 5 (*O. Salvin*). | Salvin-Godman Coll. |
| *f.* ♂ ad. sk. | Baba Tekesei, Asia Minor, May 15 (*T. Robson*). | Tweeddale Coll. |
| *g.* ♂ ad. sk. | Plain of Gennesareth. | Canon Tristram [C.]. |
| *h.* Ad. sk. | Midian. | Sir R. Burton [P.]. |
| *i, k, l.* ♂ ad.; *m, n, o.* ♀ ad. et juv. sk. | Egypt, March (*G. E. S.*). | Shelley Coll. |
| *p.* ♂ ad. sk. | Jur Gattas, Upper White Nile, Nov. | F. Bohndorff [C.]. |
| *q.* Ad. sk. | River Gambia. | Sharpe Coll. |
| *r.* Juv. sk. | Connor's Hill, Cape Coast, Dec. (*H. T. Ussher*). | Sharpe Coll. |
| *s.* Juv. sk. | Accra, Feb. 12 (*T. E. Buckley*). | Shelley Coll. |
| *t.* Ad. sk. | Near Rustenberg, Eastern Transvaal. | F. A. Barratt, Esq. [C.] |
| *u.* Ad. sk. | Modder River, Orange Free State. | F. A. Barratt, Esq. [C.] |
| *v.* ♀ juv. sk. | Bloemfontein, Jan. 5. | Dr. Exton [P.]. |
| *w.* Ad. sk. | Kingwilliamstown, British Caffraria. | Major H. Trevelyan [P.]. |
| *x–a'.* ♂ ad.; *b'–c'.* ♀ ad.; *f', g', h'.* Juv. sk. | Otjimbinque, Damara-Land, Dec., Jan., March (*C. J. Andersson*). | Sharpe and Shelley Colls. |
| *i'–m'.* ♂ ad. sk | Ondonga, Ovampo-Land, Nov. (*C. J. Andersson*). | |
| *n'.* Skeleton. | | Purchased. |

## 2. Coccystes coromandus.

Le Coucou hupé de Coromandel, *Briss. Orn.* iv. p. 147, pl. xi. A. fig. 1 (1760).

Cuculus coromandus, *Linn. Syst. Nat.* i. p. 171 (1766).

Coucou huppé de Coromandel, *Daubent. Pl. Enl.* vi. pl. 274 (*ex Briss.*).

Le Coucou huppé à collier, *Montb. Hist. Nat. Ois.* v. p. 388 (1779).
Collared Cuckow, *Lath. Gen. Syn.* i. pt. 2, p. 529 (1782).
Le Coucou à collier blanc, *Levaill. Ois. d'Afr.* v. pl. 213 (1806) ; *Sundev. Krit. om Levaill.* p. 47 (1858).
Cuculus collaris, *Vieill. N. Dict. Hist. Nat.* viii. p. 299 (1817) ; *Bonn. et Vieill. Enc. Méth.* p. 1333 (1823).
Cuculus coromandelicus, *S. Müll. Naturl. Gesch. Land- en Volkenk.* p. 234, note (1839–44).
Oxylophus coromandus, *Jerd. Madr. Journ.* xi. p. 272 (1840) ; *Blyth, J. A. S. Beng.* xi. p. 920 (1842) ; *Gray, Gen. B.* ii. p. 464 (1847) ; *Blyth, Cat. B. Mus. As. Soc.* p. 74 (1849) ; *Bp. Consp.* i. p. 102 (1850) ; *Licht. Nomencl. Av. Berol.* p. 79 (1854) ; *Motley & Dillw. Labuan N. H.* p. 55 (1855) ; *Irby, Ibis*, 1861, p. 230 ; *Sclat. P. Z. S.* 1863, p. 209.
Oxylophus coromandus vel rubrarmus, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 345. figs. 1, 2 (no. 611) ; *id. in Gray's Zool. Misc.* p. 85 (1844).
Coccystes coromandus, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii p. 693 (1854) ; *Moore, P. Z. S.* 1859, p. 459 ; *Jerd. B. Ind.* i. p. 341 (1862) ; *Cab. & Heine, Mus. Hein.* iv. p. 45 (1862) ; *Schl. Mus. Pays-Bas*, Cuculi, p. 43 (1863) ; *Blyth, Ibis*, 1866, p. 364 ; *Swinh. Ibis*, 1867, p. 227 ; *Bulger, Ibis*, 1869, p. 169 ; *Gray, Hand-l. B.* ii. p. 220, no. 906 (1870) ; *Swinh. P. Z. S.* 1871, p. 394 ; *Holdsw. P. Z. S.* 1872, p. 432 ; *Hume, Nests & Eggs Ind. B.* p. 138 (1873) ; *Salvad. Ucc. Born.* p. 67 (1874) ; *Blyth & Walden, B. Burm.* p. 81 (1875) ; *Hume, Str. F.* 1876, p. 82 ; *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 465 (1876) ; *David & Oust. Ois. Chine*, p. 71 (1877) ; *Hume & Davis. Str. F.* 1878, p. 162 ; *Sharpe, Ibis*, 1878, p. 414 ; *Tweedd. P. Z. S.* 1878, p. 946 ; *Legge, B. Ceylon*, p. 249 (1879) ; *Hume, Str. F.* 1879, p. 89 ; *Scully, t. c.* p. 257 ; *Wardlaw-Ramsay, App. Tweedd. Mem.* p. 656 (1881) ; *Simson, Ibis*, 1882, p. 87 ; *Salvin, Cat. Strickl. Coll.* p. 437 (1882) ; *Müller, J. f. O.* 1882, p. 406 ; *Blasius, J. f. O.* 1883, p. 155 ; *Oates, B. Brit. Burm.* ii. p. 117 (1883) ; *Guillem. P. Z. S.* 1885, p. 406 ; *Büttik. Notes Leyd. Mus.* ix. p. 29 (1886) ; *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 10 (1886) ; *Norman, Ibis*, 1888, p. 400 ; *Sharpe, Ibis*, 1890, p. 12.

*Adult male.* Entire upper half of the head black, strongly glossed with blue on the crest ; across the back of the neck a clear white collar ; back black, strongly glossed with greenish blue, and passing into glossy olive-green on the scapulars and inner portion of the wings ; remainder of the wings chestnut, with brown ends to the quills ; tail glossy violet-black, most of the feathers, especially the outer ones, partially tipped with white ; throat chestnut-buff ; chest buffish white ; flanks, abdomen, and thighs greyish ash, passing into violet-black on the under tail-coverts ; under surface of the wings chestnut, fading into buff towards the least coverts, and into brown at the ends of the quills : "iris dark brown ; bill black, with the pale basal portion of lower mandible light grey ; legs, feet, and claws slaty blue" (*J. Darling*). Total length 16 inches, culmen 1·1, wing 6·8, tail 10, tarsus 1.

*Adult female.* Similar in plumage to the male, but smaller. Total length 15 inches, culmen 1·2, wing 6·1, tail 9, tarsus 1.

Colonel Legge states that the female bird is larger than the male, but this is not borne out by the series in the Museum.

*Nestling*. Differs from the adult in having most of the feathers of the upper parts tipped with rufous, the collar being shaded with rufous; the tail-feathers broadly tipped with pale sandy buff; the throat buffy white like the chest, and the under tail-coverts rufous-buff. Total length 13·8 inches, wing 6·3.

*Hab*. Indian Peninsula and Ceylon, throughout the Burmese countries to China, southwards throughout the Malayan Peninsula to Java, Sumatra, the Philippines, Borneo, and Celebes.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Tientsin, China (*Capt. Ince*). | Gould Coll. |
| *b*. Ad. sk. | Amoy, China, May (*R. Swinhoe*). | Seebohm Coll. |
| *c*. ♂ ad. sk. | Ningpo, China, May (*R. Swinhoe*). | Seebohm Coll. |
| *d*. ♀ ad. sk. | Zamboanga, Mindanao, March (*A. Everett*). | Tweeddale Coll. |
| *e*. Ad. sk. | Labuan, Borneo (*J. Motley*). | Tweeddale Coll. |
| *f*. ♂ ad. sk. | Sarawak. | Governor Ussher [C.]. |
| *g*. Ad. sk. | Banjermassing (*J. Motley*). | Wallace Coll. |
| *h*. Ad. sk. | Singapore (*Capt. Charlton*). | Seebohm Coll. |
| *i*, *k*. Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *l*, *m*. Ad. sk. | Malacca, July (*W. Davison*). | Hume Coll. |
| *n*–*p*. Ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| *q*. Ad. sk. | Cambodia (*Mouhot*). | Tweeddale Coll. |
| *r*. Ad. sk. | Siam. | H. C. V. Hunter, Esq. [P.]. |
| *s*, *t*. ♀ ad. et ♂ imm. sk. | Kaukaryit, Tenasserim, June, Aug. (*J. Darling*). | Hume Coll. |
| *u*. ♀ ad. sk. | Meeta Myo, April 19 (*W. Davison*). | Hume Coll. |
| *v*–*y*. Ad. et imm. sk. | Lower Pegu, May, Aug., Sept., Dec. | Oates Coll. |
| *z*. Ad. sk. | Thayetmyo (*E. W. O.*). | Hume Coll. |
| *a'*. ♀ ad. sk. | Thayetmyo, Sept. 17 (*R. G. W. R.*). | Tweeddale Coll. |
| *b'*, *c'*. Ad. sk. | Tippera. | Hume Coll. |
| *d'*. Ad. sk. | Dacca. | Hume Coll. |
| *e'*. ♂ ad. sk. | Sadhyia, Assam, June 18 (*J. Cockburn*). | Hume Coll. |
| *f'*–*k'*. Ad. et imm. sk. | Darjiling, April. | Hume Coll. |
| *l'*–*t'*. Ad.; *u'*. Imm. sk. | Sikhim, March, June, Aug. to Dec. (*L. Mandelli*). | Hume Coll. |
| *v'*–*z'*. Ad. sk. | Native Sikhim, April, May, July (*L. Mandelli*). | Hume Coll. |
| *a''*, *b''*. Ad.; *c''*. Pull. sk. | Nepal. | Hodgson Coll. (Type of *C. rubrarmus*.) |
| *d''*, *e''*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *f''*. ♂ ad. sk. | Godavery, Nepal Valley, May 19 (*J. Scully*). | Hume Coll. |
| *g''*. ♂ ad. sk. | Madras. | Hume Coll. |
| *h''*. ♀ ad. sk. | Kotagherry, Nilghiris, Dec. 5 (*Miss Cockburn*). | Hume Coll. |

| | | |
|---|---|---|
| *i''*. Ad. sk. | Trichinopoly. | Hume Coll. |
| *k''–n''*. Ad. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *o''*. ♀ ad. sk. | Columbo, Ceylon, Feb. 9 (*Hart*). | Hume Coll. |
| *p''*. ♀ ad. sk. | Ragam Korale, Ceylon, Dec. 30, 1878 (*Hart*). | Hume Coll. |
| *q''*. ♀ ad. sk. | Manaar, Ceylon, March (*W. V. Legge*). | Seebohm Coll. |
| *r''*, *s''*. Bones of trunk. | Nepal. | Hodgson Coll. |
| *t''*. Sternum. | Pegu. | Oates Coll. |

### 3. Coccystes jacobinus.

Coucou hupé de la côte de Coromandel, *Daubent. Pl. Enl.* vi. pl. 872 (*nec Briss.*).

Jacobin huppé de Coromandel, *Montb. Hist. Nat. Ois.* vi. p. 380 (1779).

Coromandel Crested Cuckoo, *Lath. Gen. Syn.* i. pt. 2, p. 520 (1782).

Cuculus jacobinus, *Bodd. Tabl. Pl. Enl.* p. 53 (1783).

Cuculus melanoleucus, *Gm. Syst. Nat.* i. p. 416 (1788).

Le Coucou Edolio femelle, *Levaill. Ois. Afr.* v. pl. 208 (1806); *Sundev. Krit. om Levaill.* p. 47 (1857).

Cuculus serratus ♀, *Steph. Gen. Zool.* ix. p. 114, pl. 23 (1815).

Cuculus edolius ♀, *Cuv. Règne Anim.* i. p. 425 (1817); *Blyth, J. A. S. B.* 1842, p. 921.

Cuculus pica, *Hempr. & Ehr. Symb. Phys.* fol. 2, note (1828).

Oxylophus edolius, *Jerd. Madr. Journ.* xi. p. 222 (1840).

Coccyzus serratoides, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 346 (no. 612); undè

Oxylophus serratoides, *Hodgs. in Gray's Zool. Misc.* p. 85 (1844).

Oxylophus afer, *Gray, Cat. Mamm. etc. Nepal pres. Hodys.* p. 118 (1846); *id. Gen. B.* ii. p. 464 (1847); *Reichen. J. f. O.* 1887, p. 58.

Oxylophus melanoleucus, *Blyth, Cat. B. Mus. As. Soc.* p. 74 (1847); *Ayres, Ibis*, 1871, p. 261; *Hume, Str. F.* 1876, p. 81.

Oxylophus serratus (*nec Sparrm.*), *Strickl. P. Z. S.* 1850, p. 219; *Hartl. Orn. West-Afr.* p. 267 (1857); *Antin. Cat. descr. Ucc.* p. 82 (1864); *Bocage, Jorn. Lisb.* ii. p. 46 (1868).

Coccystes melanoleucus, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 694 (1856); *Jerd. B. Ind.* ii. p. 339 (1862); *id. Ibis*, 1872, p. 15.

Coccyzus leucomelas, C. melanoleucus, C. color, *Brehm, Allg. Natur. Zeitschr.* 1856, p. 459 (*teste Heugl.*).

Coccystes jacobinus, *Cab. & Heine, Mus. Hein.* iv. p. 45 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 44 (1864); *Gray, Hand-l. B.* ii. p. 220, no. 9062 (1870); *Holdsw. P. Z. S.* 1872, p. 432; *Sharpe, P. Z. S.* 1873, p. 597; *Hume, Nests & Eggs Ind. B.* p. 137 (1873); *id. Str. F.* 1873, p. 173; *Adams, t. c.* p. 573; *Hayes Lloyd, Ibis*, 1873, p. 40; *Antin. & Salvad. Viagg. Bogos*, p. 49 (1873); *Buckley, Ibis*, 1874, p. 367; *Sharpe, P. Z. S.* 1874, p. 367; *Ball, Str. F.* 1874, p. 394, 1875, p. 290; *Morgan, Ibis*, 1875, p. 315; *Blyth & Wald. B. Burm.* p. 81 (1875); *Fairb. Str. F.* 1876, p. 255; *Hume, t. c.* p. 457; *Gadow, J. f. O.* 1876, p. 404; *Hume, Str. F.* 1877, p. 27; *Butler, t. c.* p. 327; *Bocage, Orn. Angola*, p. 146 (1877–81); *Wardlaw Ramsay, Ibis*, 1877, p. 456; *Davids. & Wenden, Str. F.*

1878, p. 79; *Butler, t. c.* p. 181; *Ball, op. cit.* 1878, p. 207; *Cripps, t. c.* p. 265; *Legge, B. Ceylon*, p. 246 (1879); *Hume, Str. F.* 1879, p. 89; *Biddulph, Ibis*, 1881, p. 50; *Gurney, t. c.* p. 128; *Shelley, Ibis*, 1882, p. 165; *Holub & Von Pelz. Beitr. Orn. S. Afr.* p. 165 (1882); *Salvin, Cat. Strickl. Coll.* p. 436 (1882); *Butler, Feilden, & Reid, Zool.* 1882, p. 227; *Oates, B. Brit. Burm.* ii. p. 118 (1883); *Parker, Ibis*, 1883, p. 197; *Sharpe, ed. Layard's B. S. Afr.* pp. 158, 810 (1884); *Swinh. Ibis*, 1885, p. 63; *Symonds, Ibis*, 1887, p. 329; *Norman, Ibis*, 1888, p. 402.

Oxylophus jacobinus, *Cass. Proc. Philad. Acad.* 1856, p. 321; *Heugl. Orn. N.O.-Afr.* ii. pp. 788, clxiii (1870); *Blanf. Geol. & Zool. Abyss.* p. 313 (1870); *id. Ibis*, 1870, p. 465; *Finsch, Trans. Zool. Soc.* vii. p. 286 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 225 (1872); *Blanf. Ibis*, 1872, p. 86; *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 114 (1881).

Coccystes pica, *Cab. & Heine, Mus. Hein.* iv. p. 46 (1862); *Gray, Hand-l. B.* ii. p. 220, no. 9065 (1870); *Cab. J. f. O.* 1878, p. 237; *Fischer & Reichen. J. f. O.* 1879, p. 342; *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 95 (1884); *Matsch. J. f. O.* 1887, p. 140.

Coccystes serratus (*nec Sparrm.*), *Gadow, J. f. O.* 1876, p. 401.

*Adult male.* Above black, glossed with green; about one quarter of the basal portion of the primaries white, forming a broad band halfway across the wing: tail-feathers with white ends, broadest on the outer ones: beneath white, generally washed with buff and with a dusky shade near the back of the thigh-coverts; the dusky bases of the feathers often showing through, and faintly-developed shaft-stripes on the throat being sometimes visible; under wing-coverts buff, the lower series dusky black; "iris dark brown; bill black; legs plumbeous brown" (*Butler*). Total length 12·8 inches, culmen 0·9, wing 6, tail 7·2, tarsus 1·1.

*Adult female.* Similar to the male. Total length 12·75 inches, wing 5·8, tail 6·75, tarsus 1.

*Nestling.* Above brown, slightly darker on the crown, and more ashy on the forehead; wings with a few of the feathers broadly tipped with buff, and with no white base to the quills; tail brown, passing into buff on the outer feathers; sides of the head brown; throat grey, shading into buff on the remainder of the underparts: bill and legs yellow. Total length 6·8 inches, wing 3·2.

*Full-grown young.* Very similar in plumage to the nestling, but with the pale bases to the primaries as in the adult, but fulvescent in colour; all the tail-feathers with fulvous tips, broadest towards the outer ones; the grey of the throat is more restricted to the region of the chin: bill and legs darker, the upper mandible and legs brown. Total length 10·7 inches, wing 5·5.

Indian specimens of *C. jacobinus* are precisely similar to African. The wing in both sexes varies from 5·4 to 6 inches in Indian examples, the Ceylonese birds being rather smaller than those from the Indian Peninsula. In two instances the wing is 6·1 inches in length, but the sex is not marked in either case. African birds have similar dimensions, the largest specimen being from Biballa with a wing of 6·3 inches.

*Hab.* The whole of Africa south of the Sahara; India generally and Ceylon to the Burmese countries.

| | | |
|---|---|---|
| *a*. Ad. sk. | Dakar, Senegal (*A. Marche*). | Mons. A. Bouvier [P.]. |
| *b*. ♂ ad. sk. | Waliko, Bogos-Land, July 21. | W. T. Blanford, Esq. [P.]. |
| *c*. ♀ ad. sk. | Waliko, Aug. 3 (*W. Jesse*). | Tweeddale Coll. |
| *d–f*. Ad. sk. | Kilimanjaro, Jan. 24. | F. J. Jackson, Esq. [P.]. |
| *g*, *h*. Ad. sk. | Mombasa. | Rev. A. Buxton [P.]. |
| *i*. Ad. sk. | Mombasa (*Wakefield*). | R. B. Sharpe, Esq. [P.]. |
| *k*, *l*, *m*. Ad. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *n*. Ad. sk. | Dar-es-Salaam (*E. C. Buxton*). | Shelley Coll. |
| *o*. Ad. sk. | Pangani River (*Sir J. Kirk*). | Shelley Coll. |
| *p*, *q*. Ad. et juv. sk. | Tete, Zambesi. | Sir J. Kirk [C.]. |
| *r*, *s*. Ad. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *t*, *u*, *v*. Ad. et juv. sk. | Biballa, Mossamedes (*J. Anchieta*). | Sharpe Coll. |
| *w*. ♂ ad. sk. | Humbe, Nov. (*J. Anchieta*). | Shelley Coll. |
| *x*, *y*. Ad. sk. | Damara-Land, Dec. 28 (*C. J. Andersson*). | Sharpe Coll. |
| *z*. Ad. sk. | Lake Ngami. | Seebohm Coll. |
| *a'*. Ad. st. | South Africa. | Sir A. Smith [C.]. |
| *b'*. ♀ ad. sk. | Colombo, Ceylon, March 12. | Colonel Legge [P.]. |
| *c'*. ♂ ad. sk. | Colombo, Dec. 28 (*Hart*). | Hume Coll. |
| *d'–i'*. Ad; *k'*. Imm. sk. | Ceylon, November. | Tweeddale Coll. |
| *l'*. ♀ ad. sk. | Rameswaren Island, March 17 (*A. O. H.*). | Hume Coll. |
| *m'*. ♂ ad. sk. | Coonoor, Nilghiris, Aug. 23 (*R. G. W. R.*) | Tweeddale Coll. |
| *n'*. ♂ ad. sk. | Kollar, Mysore, April 13 (*R. G. W. R.*) | Tweeddale Coll. |
| *o'*. ♂ ad. sk. | Muddur, Mysore, May 22 (*W. Davison*). | Hume Coll. |
| *p'*. ♂ ad. sk. | Belgaum, Aug. 25 (*E. A. Butler*). | Hume Coll. |
| *q'*. Ad. sk. | Madras, April (*W. Davison*). | Hume Coll. |
| *r'*. Ad. sk. | Madras (*T. C. Jerdon*). | Gould Coll. |
| *s'*. Ad. sk. | Deccan (*Sykes*). | India Museum. |
| *t'*, *u'*. ♂ imm. sk. | Ahmednuggur, Oct., Nov. (*S. B. Fairbank*). | Tweeddale Coll. |
| *v'*. Ad. sk. | Matheran, Nov. | Hume Coll. |
| *w'*, *x'*. Ad. sk. | Khandeish. | Tweeddale Coll. |
| *y'*, *z'*. ♂ ♀ ad. sk. | Khandeish, June, July (*J. Davidson*). | Hume Coll. |
| *a''*. ♂ ad. sk. | Mhow, Oct. 6. | Colonel Swinhoe [P.]. |
| *b''*. Ad. sk. | Kattiawar, June 11. | Colonel Hayes Lloyd [P.]. |
| *c''*. Ad. sk. | Sindh. | Hume Coll. |
| *d''*. Imm. sk. | Sindh (*H. Gould*). | India Museum. |
| *e''*. Ad. sk. | Deesa. | Colonel Butler [C.]. |

| | | |
|---|---|---|
| *f''*. ♂ ad. sk. | Anadra, Mt. Aboo, July 5 (*G. King*). | Hume Coll. |
| *g''*, *h''*. ♂ ♀ ad. sk. | Sambhur, Aug., Sept. (*R. M. Adam*). | Hume Coll. |
| *i''*, *k''*. Imm. sk. | Sultanpur, Gurgaon (*W. N. Chill*). | Hume Coll. |
| *l''*. ♀ ad. sk. | Umbala. | Seebohm Coll. |
| *m''*. Ad. sk. | Lahore (*C. H. T. Marshall*). | Sharpe Coll. |
| *n''*. Ad. sk. | Murree. | Colonel Way [P.]. |
| *o''*, *p''*. ♂ ♀ ad. sk. | Simla, July, Sept. (*R. C. Beavan*). | Tweeddale Coll. |
| *q''*, *r''*, *s''*. Ad. sk. | Simla, July. | Hume Coll. |
| *t''*, *u''*, *v''*. Ad. sk. | Masuri. | Pinwill Coll. |
| *w''*, *x''*, *y''*, *z''*, *a*³. Ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *b*³, *c*³. Ad. sk. | Naini Tal, Sept. | Hume Coll. |
| *d*³, *e*³, *f*³. Ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *g*³. ♂ ad. sk. | Almora, Aug. 13. | Hume Coll. |
| *h*³, *i*³. Ad. sk. | Nepal. | Hodgson Coll. |
| *k*³. Juv. sk. | Etawah. | Hume Coll. |
| *l*³, *m*³. Ad. sk. | Mogulserai, Oudh, Jan., Nov. (*W. E. Brooks*). | Hume Coll. |
| *n*³, *o*³. ♂ ad.; *p*³. ♂ juv. sk. | Futtehgurh Distr., July, Aug. (*A. Anderson*). | Seebohm Coll. |
| *q*³. Ad. sk. | Saugor (*Hooper*). | India Museum. |
| *r*³. ♀ ad.: *s*³. Pull. sk. | Saugor, July. | Hume Coll. |
| *t*³. Ad. sk. | Jhansie, Aug. | Hume Coll. |
| *u*³. Ad. sk. | Calcutta, Jan. | Hume Coll. |
| *v*³. Ad.; *w*³. Juv. sk. | Dacca. | Hume Coll. |
| *x*³, *y*³. ♂ ♀ ad. sk. | Shillong, Assam (*J. Cockburn*). | Hume Coll. |
| *z*³. ♂ ad. sk. | Siong, Khasia Hills, Aug. (*A. W. Chennell*). | Tweeddale Coll. |
| *a*⁴. Juv. sk. | Dilkusha, Cachar (*J. Inglis*). | Hume Coll. |
| *b*⁴. ♀ ad. sk. | Manipur, May 23 (*A. O. H.*). | Hume Coll. |
| *c*⁴. ♂ ad.; *d*⁴, *e*⁴. ♀ ad. sk. | Thayetmyo, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| *f*⁴. Ad. sk. | Pegu. | W. T. Blanford, Esq. [C.]. |
| *g*⁴, *h*⁴. ♂ ♀ ad. sk. | Palow and Boulay, Upper Pegu, May, Aug. (*E. W. O.*). | Oates Coll. |

### Subsp. *a*. **Coccystes hypopinarius.** (Plate XI. fig. 2.)

Coccystes hypopinarius, *Cab. & Heine, Mus. Hein.* Th. iv. p. 47 (1862); *Norman, Ibis*, 1888, p. 406.

Coccystes jacobinus (*nec Bodd.*), *Barratt, Ibis*, 1876, p. 200; *Ayres, Ibis*, 1876, p. 432, 1877, p. 342; *Reichen. J. f. O.* 1877, p. 16.

*Adult.* Similar to *C. jacobinus*, but differs in having a dull ashy-grey shade on the throat, breast, and abdomen, the throat having also some dusky streaks. Total length 12·7 inches, culmen 0·8, wing 6·2, tail 7·2, tarsus 1·1.

The length of wing varies from 5·8 to 6·2 inches.

*Hab.* This is a grey-chested race of *C. jacobinus* which occurs in South-eastern Africa, extending, according to Dr. Reichenow, to the Loango coast in South-western Africa.

| | | |
|---|---|---|
| *a.* Ad. sk. | S.E. Africa. | Seebohm Coll. |
| *b.* ♂ ad. sk. | Eland's Post, S.E. Africa (*T. C. Atmore*). | Sharpe Coll. |
| *c, d.* Ad. sk. | Durban, Natal (*J. Gordge*). | Shelley Coll. |
| *e, f.* Ad. sk. | Natal (*T. Ayres*). | Sharpe Coll. |
| *g.* ♀ juv. sk. | Natal, March 26 (*W. Arnold*). | Seebohm Coll. |
| *h.* Ad. sk. | Pretoria (*J. Pratt*). | Seebohm Coll. |
| *i.* Ad. sk. | Between Pretoria and Rustenberg. | F. A. Barratt, Esq. [P.]. |
| *k.* Ad. sk. | Transvaal (*T. Ayres*). | Sharpe Coll. |
| *l, m.* ♂ ♀ ad. sk. | Transvaal, Nov. (*T. E. Buckley*). | Shelley Coll. |
| *n.* Ad. sk. | Potchefstroom. | F. A. Barratt, Esq. [P.]. |

Subsp. *β*. **Coccystes caroli.** (Plate XI. fig. 1.)

Coccystes caroli, *Norman, Ibis*, 1888, p. 407.

*Adult.* Similar to *C. jacobinus*, but differing in its larger size and in the dusky streaks on the throat. Total length 14 inches, culmen 1, wing 6·7, tail 8·9, tarsus 1·15.

*Hab.* Ogowè River, Gaboon.

| | | |
|---|---|---|
| *a.* Ad. sk. | Ogowè River. | H. T. Ansell, Esq. (Type of *C. caroli.*) |

## 4. Coccystes cafer.

Cuculus cafer, *Licht. Cat. rer. nat. Hamb.* p. 14 (1793).

Variété du Coucou Edolio, *Levaill. Ois. d'Afr.* v. p. 44, pl. 209 (1806); *Sundev. Krit. om Levaill.* p. 47 (1857).

Cuculus afer, *Leach, Zool. Misc.* i. p. 72, pl. 31 (1814); *Steph. Gen. Zool.* ix. p. 115, pl. 24 (1815).

Coccyzus levaillantii, *Swains. Zool. Illustr.* 2nd series, i. pl. 13 (1829).

Cuculus levaillantii, *Less. Traité*, p. 148 (1831).

Oxylophus vaillantii, *Swains. B. W. Afr.* ii. p. 182 (1837).

Oxylophus ater (*nec Gm.*), *Rüpp. Syst. Uebers.* p. 96 (1845); *Bp. Consp.* i. p. 102 (1850); *Hartl. Orn. West-Afr.* p. 188 (1857).

Oxylophus afer, *Gray, Gen. B.* ii. p. 464 (1847); *Heugl. Syst. Uebers.* p. 48 (1856); *Layard, B. S. Afr.* p. 253 (1867); *Heugl. Orn. N.O.-Afr.* ii. p. 790 (1870); *Blanf. Geol. & Zool. Abyss.* p. 312 (1870); *Finsch, Trans. Zool. Soc.* viii. p. 285 (1870); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 210 (1881); *Böhm, J. f. O.* 1883, p. 166, 1885, p. 41; *Schalow, J. f. O.* 1886, p. 417.

Oxylophus levaillanti, *Licht. Nomencl. Av. Berol.* p. 78 (1854).

Coccystes afer, *Cab. & Heine, Mus. Hein.* Th. iv. p. 48 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 44 (1864); *Antin. & Salvad. Viagg. Bogos*, p. 49 (1878); *Reichen. J. f. O.* 1875, p. 3; *Bocage, Orn. Angola*, App. p. 542 (1881).

Coccystes cafer, *Sharpe, Ibis*, 1870, p. 58; *Gray, Hand-l. B.* ii.

p. 220, no. 9036 (1870); *Sharpe, Cat. Afr. B.* p. 10 (1871); *Shelley, & Buckley, Ibis*, 1872, p. 285; *Ussher, Ibis*, 1874, p. 53; *Ayres, Ibis*, 1884, p. 224; *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 95 (1884); *Sharpe, ed. Layard's B. S. Afr.* pp. 158, 810 (1884); *id. Journ. Linn. Soc.* xvi. p. 433 (1884); *Büttik. Notes Leyden Mus.* vii. p. 225 (1885); *Norman, Ibis*, 1888, p. 407.

Oxylophus cafer, *Gurney in Anderss. B. Dam.-Ld.* p. 225 (1872).

*Adult male.* Above glossy black; wing-coverts like the back; primaries brown, with a large patch of white at the base; tail-feathers like the back, with broad white ends; crown of head with the occipital crest a little darker than the back; sides of the face like the back; remainder of under surface of body white, slightly tinged with buff, the sides of the neck, throat, and chest streaked with black, diminishing in breadth on the chest; a few streaks sometimes to be seen on the thighs; under wing-coverts buffy white, the lower series blackish; axillaries ashy; bill black; feet brownish grey; iris dark brown. Total length 15·5 inches, culmen 1·2, wing 7·3, tail 10, tarsus 1·15.

*Adult female.* Similar to the male. Total length 15 inches, culmen 1·2, wing 6·8, tail 8·5, tarsus 1·2.

The black stripes on the throat and breast vary considerably in extent in different individuals, but these variations are not coincident with a difference in locality.

*Young.* Brown above, shaded with violet, and mottled with some greenish-black feathers; tail decidedly more violet, and having only the two outer tail-feathers tipped with white; under surface of body whitish, washed with brown on the throat, thighs, and under tail-coverts; the dark centres to the feathers of the throat very irregularly indicated: bill and feet browner. Total length 13 inches, wing 6.

*Hab.* West Africa from Senegambia to the Gold Coast; North-east Africa from Bogos-Land south to the Niam-Niam country, and throughout East Africa to the Zambesi, and from thence southward to Natal and westward into Damara-Land.

| | | |
|---|---|---|
| *a–d.* Ad. sk. | River Gambia. | |
| *e.* Ad. st. | River Gambia. | Governor Rendall [P.]. |
| *f.* Ad. sk. | R. Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *g, h, i.* Ad. sk. | Sierra Leone. | Seebohm Coll. |
| *k, l.* Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *m, n.* Ad.; *o, p.* Juv. sk. | Fantee. | A. Swanzy, Esq. [P.]. |
| *q.* Juv. sk. | Fantee (*Kirby*). | Shelley Coll. |
| *r, s, t.* Ad. sk. | Denkera, Jan., Dec. (*H. F. Blissett*). | Sharpe Coll. |
| *u, v.* Ad. sk. | Near Accra, Feb., April (*G. E. S.*). | Shelley Coll. |
| *w, x, y.* ♂ ad.; *z.* Juv. sk. | Otjimbinque, Damara-Land, March, Nov. (*C. J. Andersson*). | Tweeddale Coll. |
| *a′, b′.* ♀ ad. sk. | Weenen, Natal, March 2 (*W. Arnold*). | Seebohm Coll. |
| *c′.* Juv. st. | S.E. Africa. | Sir A. Smith [C.]. |

| | | |
|---|---|---|
| *d'*. ♂ ad. sk. | Lydenburg, E. Transvaal, June (*J. Gordge*). | Shelley Coll. |
| *e'*. ♀ ad. sk. | Tati, Matabele-Land, Oct. 17 (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *f'*, *g'*. Ad. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *h'*. Ad. sk. | Dar-es-Salaam, Zanzibar (*Sir J. Kirk*). | Shelley Coll. |
| *i'*, *k'*. Ad. sk. | Usambara Hills (*Sir J. Kirk*). | Shelley Coll. |
| *l'*. ♂ ad. sk. | Semmio, Niam-Niam Country, Feb. | F. Bohndorff [C.]. |
| *m'*. Ad. sk. | Fazoglu, Abyssinia. | Seebohm Coll. |
| *n'*–*q'*. Ad. sk. | Bogos-Land, Aug. (*W. Jesse*). | |
| *r'*. ♂ ad. sk. | Anseba Valley, July. | W. T. Blanford, Esq. [C.]. |

### 5. Coccystes serratus.

Crested Black Cuckow, *Lath. Gen. Syn.* i. pt. 2, p. 519 (1782).

Cuculus serratus, *Sparrm. Mus. Carls.* i. pl. iii. (1789); *Sundev. Krit. om Sparrm.* p. 4 (1857); *Grill, Zool. Antekn.* p. 43 (1859).

Cuculus ater, *Gm. Syst. Nat.* i. p. 415 (1788); *Walden, Ibis*, 1869, p. 336.

Le Coucou Edolio, *Levaill. Ois. d'Afr.* v. p. 39, pl. 207 (1806); *Sundev. Krit. om Levaill.* p. 47 (1857).

Cuculus edolius, *Cuv. Règne Anim.* i. p. 425 (1817); *Less. Traité*, p. 148 (1831).

Oxylophus edolius, *Swains. Class. B.* ii. p. 322 (1837); *Layard, B. S. Afr.* p. 252 (1867).

Oxylophus serratus, *Gray, Gen. B.* ii. p. 464 (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 74 (1849); *Bp. Consp.* i. p. 102 (1850); *Licht. Nomencl. Av. Berol.* p. 78 (1854); *Hartl. Orn. West-Afr.* p. 267 (1857); *Gurney, Ibis*, 1869, p. 246; *Ayres, t. c.* p. 297; *Gurney, in Anderss. B. Dam.-Ld.* p. 226 (1872); *id. Ibis*, 1873, p. 25.

Coccystes serratus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 47 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 45 (1863); *Gray, Hand-l. B.* ii. p. 220, no. 9064 (1870); *Sharpe, Cat. Afr. B.* p. 13 (1871); *id. Ibis*, 1872, p. 68; *id. P. Z. S.* 1873, p. 599; *Layard, P. Z. S.* 1877, p. 465; *Ayres, Ibis*, 1878, p. 408; *Sharpe, ed. Layard's B. S. Afr.* pp. 160, 810 (1884); *Ayres, Ibis*, 1885, p. 344; *Norman, Ibis*, 1888, p. 409.

*Adult male.* Above and below black, glossed with green; about the basal fourth of the primaries white, forming a broad band half way across the wing: iris, bill, and legs black. Total length 13 inches, culmen 1·1, wing 6·2, tail 7·3, tarsus 1·1.

*Adult female.* Similar in colour to the male. Total length 13 inches, culmen 1·1, wing 6, tail 7·8, tarsus 1·1.

*Hab.* South Africa from the Cape Colony to Natal and the Transvaal.

| | | |
|---|---|---|
| *a*. Ad. sk. | South Africa (*E. L. Layard*). | Tweeddale Coll. |
| *b*. Ad. sk. | South Africa. | Seebohm Coll. |
| *c*. Ad. sk. | South Africa. | Earl of Derby [P.]. |

| | | |
|---|---|---|
| *d.* Ad. sk. | Eland's Post (*T. Atmore*). | Sharpe Coll. |
| *e.* Imm. sk. | Grahamstown, Feb. (*T. Atmore*). | Sharpe Coll. |
| *f.* Ad. sk. | Kingwilliamstown. | Major Trevelyan [P.]. |
| *g*, *h.* ♂ ad.; *i.* ♀ ad. sk. | Weenen, Natal, Feb., April (*W. Arnold*). | Seebohm Coll. |
| *k*, *l.* ♂ ♀ ad. sk. | Weenen (*J. Gordge*). | Shelley Coll. |
| *m.* Ad. sk. | Durban (*Gordge*). | Shelley Coll. |
| *n.* ♂ ad. sk. | Transvaal (*T. Ayres*). | Sharpe Coll. |

### 6. Coccystes albonotatus.

Coccystes serratus (*nec Sparrm.*), *Cab. J. f. O.* 1878, p. 237; *Fischer & Reichen. J. f. O.* 1878, p. 253; *Fischer, t. c.* p. 291.
Coccystes albonotatus, *Shelley, P. Z. S.* 1881, p. 594; *Gurney, Ibis*, 1882, p. 73; *Fischer, J. f. O.* 1885, p. 124; *Norman, Ibis*, 1888, p. 409.

*Adult* (type of species). Very similar to *C. serratus*, but larger, and further differs in having a large white spot on the outer webs of the two pairs of outer tail-feathers, and sometimes, as in the type specimen, the under tail-coverts are broadly tipped with white. Total length 14·8 inches, culmen 1·1, wing 6·5, tail 9, tarsus 1·15.

A specimen from Mombasa measures:—Total length 16·4 inches, culmen 1·2, wing 6·3, tail 9·2, tarsus 1·1.

*Hab.* E. Africa from the Usambara Hills to Mombasa.

| | | |
|---|---|---|
| *a.* Ad. sk. | Mombasa. | Rev. A. F. Buxton [P.]. |
| *b.* Ad. sk. | Usambara Hills (*Sir J. Kirk*). | Shelley Coll. (Type of species.) |

## 2. PACHYCOCCYX.

| | Type. |
|---|---|
| Pachycoccyx, *Cab. J. f. O.* 1882, p. 230 ..... | P. validus. |

*Range.* Tropical Africa and Madagascar.

*Key to the Species.*

*a.* Larger; with no grey on the head nor sides of neck . *audeberti*, p. 224.
*b.* Smaller; with the head and sides of neck grey.... *validus*, p. 225.

### 1. Pachycoccyx audeberti.

Cuculus audeberti, *Schl. Notes Leyden Mus.* 1879, p. 99; *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 178, pls. 66 *a*, 66 *b* (1879); *Reichen. & Schalow, J. f. O.* 1879, p. 427.

*Adult* (type of species). Above brown, with a slight greenish gloss; primary-coverts, greater coverts, and quills with their ends margined with white; tail-feathers with a terminal blackish band, tipped with white and preceded by patches of white on their outer webs; under surface of body white, with the cheeks and under wing-coverts

tinged with rufous-buff; under tail-coverts with a broad black band across each feather; bill black; iris black; feet yellow. Total length 16·2 inches, culmen 1, wing 9, tail 8·6, tarsus 0·9. (*Milne-Edwards & Grandidier.*)

*Hab.* Madagascar.

### 2. Pachycoccyx validus.

Cuculus validus, *Reichen. Orn. Centralbl.* 1879, p. 139; *id. & Schalow J. f. O.* 1879, p. 313; *Fischer & Reichen. t. c.* p. 341.
Pachycoccyx validus, *Cab. J. f. O.* 1882, p. 230; *Fischer, J. f. O.* 1885, p. 124; *Shelley, P. Z. S.* 1888, p. 42.
Coccystes brazzæ, *Oust. Le Naturaliste*, iii. p. 299 (1886); *Norman, Ibis*, 1888, p. 407.

*Adult* (type of *Coccystes brazzæ*, Oust.). Above brownish black with a greenish-blue gloss, the white bases of the feathers showing through on the nape and back of the neck; the lateral upper tail-coverts notched or partially barred with white; the ends of all but the two centre tail-feathers white; tail beneath with a broad subterminal bar and about three partial bars on a dusky silvery ground; under surface of the body white, with a dusky shade on the sides of the breast; under tail-coverts with three broad, nearly perfect, bars; under wing-coverts white; under surface of the quills dusky silvery grey, inclining to white towards the base of the inner webs; nostrils linear and horizontal; bill broad and black, with the base of the upper and most of the lower mandible yellow; cere, eyelids, and feet yellow (*J. De Brazza*). Total length 13 inches, culmen 0·9, wing 8·4, tail 8·3, tarsus 0·85.

*Hab.* From the interior of Gaboon to Equatorial Africa, and East Africa.

| | | |
|---|---|---|
| *a.* Pull. sk. | Gaboon. | P. B. DuChaillu, Esq. [C.]. |
| *b.* ♀ juv. sk. | Tingasi, Equatorial Africa, Aug. 2, 1883. | Emin Pasha [P.]. |

### 3. CALLIECHTHRUS.

| | Type. |
|---|---|
| Simotes, *Blyth, Journ. As. Soc.* xv. p. 19 (1846, *nec Fischer*, 1829, *Mamm.*) | C. leucolophus. |
| Calliechthrus, *Cab. & Heine, Mus. Hein.* iv. p. 31, note (1862) | C. leucolophus. |

*Range.* New Guinea; Salwati; Waigiou; Mysol.

### 1. Calliechthrus leucolophus.

Cuculus leucolophus, *S. Müll. Verh. Land- en Volkenk.* p. 22 (1839–44); *Schl. Handl. Dierk.* i. p. 204, pl. iii. fig. 33 (1857); *Gray, P. Z. S.* 1858, p. 195; *id. Cat. Mamm. etc. New Guinea*, pp. 44, 60 (1859); *id. P. Z. S.* 1861, p. 437; *Schl. Mus. Pays-Bas*, Cuculi, p. 16 (1864); *Gray, Hand-l. B.* ii. p. 216, no. 9012 (1870); *Beccari, Ann. Mus. Civic. Genov.* vii. p. 715 (1875); *id. Ibis*, 1876, p. 253.

Simotes albivertex, *Blyth, Journ. As. Soc. Beng.* xv. pp. 15, 283 (1846); *id. Cat. B. Mus. As. Soc.* p. 75 (1849).
Cuculus albivertex, *Gray, Gen. B.* iii. App. p. 23 (1849).
Simotes leucolophus, *Blyth, Cat. B. Mus. As. Soc.* p. xix (1852).
Hierococcyx leucolophus, *S. Müll. Verh. Land- en Volkenk.* p. 233, note (1839–44); *Bp. Consp. Av.* i. p. 104 (1850); *id. Consp. Volucr. Zygod.* p. 7 (1854); *Scl. Proc. Linn. Soc. Zool.* ii. p. 166 (1858); *Rosenb. Natuurk. Tijdschr. Ned. Ind.* xxv. p. 229 (1863); *id. J. f. O.* 1864, p. 117.
Calliechthrus leucolophus, *Cab. & Heine, Mus. Hein.* iv. p. 31, note (1862); *Salvad. Atti R. Accad. Torin.* xiii. p. 313 (1878); *id. Ann. Mus. Civic. Genov.* xiii. p. 461 (1878); *D'Albert. & Salvad. op. cit.* xiv. p. 43 (1879); *Salvad. Orn. Papuasia etc.* i. p. 358 (1880); *Sharpe in Gould's B. New Guinea*, iv. pl. 42 (1887).
Eudynamis leucolophus, *Finsch, Neu-Guinea*, p. 159 (1865).

*Adult male.* Black with a strong greenish-blue gloss, a broad median band of white along the crown and nape; tail-feathers black, narrowly tipped with white; breast duller black, tinged with grey, the throat, flanks, and under tail-coverts strongly washed with a greenish-blue gloss. Total length 11·5 inches, culmen 1·1, wing 6·5, tail 5·8, tarsus 0·85.

*Adult female.* Similar in plumage to the male; "bill, legs, and feet black; iris brown" (*H. O. Forbes*). Total length 12·6 inches, culmen 1·3, wing 6·7, tail 6·8, tarsus 0·85.

Immature birds have some remains of white barring on the chest and have the under wing-coverts slightly barred with white.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. Juv. sk. | New Guinea. | Wallace Coll. |
| *b*. Ad. sk. | Astrolabe Mts., S.E. New Guinea. | A. Goldie [C.]. |
| *c*. Ad.; *d*. Juv. sk. | Sogere district, Astrolabe Mts. | H. O. Forbes, Esq. [C.]. |
| *e*. Ad. sk. | East Cape, S.E. New Guinea. | K. Hunstein [C.]. |

## 4. SURNICULUS.

| | Type. |
|---|---|
| Surniculus, *Less. Traité Orn.* p. 151 (1831) | S. lugubris. |
| Pseudornis, *Hodgs. J. A. S. Beng.* viii. p. 136 (1839) | S. lugubris. |
| Cacangelus, *Cab. & Heine, Mus. Hein.* iv. p. 17 (1862) | S. lugubris. |

*Range.* Ceylon and the Indian Peninsula, extending eastward through the Burmese countries to South China, and south through the Malayan Peninsula to Sumatra, Java, Borneo, the Philippine Islands, and Batchian in the Moluccas.

*Key to the Species.*

*a*. Crown and entire back with a strong greenish-blue gloss. Underparts more dusky and less glossed; adults uniform; young spotted with white ..... *lugubris*, p. 227.

*b*. Head, neck, back, and underparts velvety black, with scarcely any gloss.
*a'*. Tail forked. Wing 5·5 inches..... *muschenbroeki*, p. 230.
*b'*. Tail not forked. Wing 4·7..... *velutinus*, p. 230.

### 1. Surniculus lugubris.

Cuculus lugubris, *Horsf. Tr. Linn. Soc.* xiii. p. 179 (1820); *id. Zool. Res. Java*, pl. 58 (1824); *S. Müll. Verh. Land- en Volk.* p. 178 (1839–44); *Less. Traité Orn.* p. 151 (1831); *id. in Bélang. Voy. Ind. Orient.* p. 231 (1834); *Blyth, J. A. S. Beng.* 1842, p. 916; *Bp. Consp.* i. p. 105 (1850); *Schl. Mus. Pays-Bas*, Cuculi, p. 28 (1864); *Pelz. Novara Reis., Vög.* p. 104 (1865); *Gray, Hand-l. B.* ii. p. 219, no. 9052 (1870).

Cuculus albopunctulatus, *Drap. Dict. Class. Hist. Nat.* iv. p. 570 (1823).

Cuculus albopunctatus, *Horsf. Zool. Res. Java*, pl. — (1824).

Pseudornis dicruroides, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 353. no. 502; *id. J. A. S. Beng.* 1839, p. 136; *id. in Gray's Zool. Misc.* p. 85 (1844); *Gray, Cat. Mamm. & B. Nepal pres. Hodgs.* p. 119 (1846).

Pseudornis lugubris, *Hodgs. J. A. S. Beng.* 1839, p. 137.

Cuculus dicruroides, *Jerd. Madras Journ.* x. p. 221 (1840); *Blyth, J. A. S. Beng.* 1842, p. 915, 1843, p. 244; *Kelaart, Cat. Prodr.* App. p. 60 (1853); *Layard, Ann. & Mag. N. H.* xiii. p. 453 (1854); *Gray, Hand-l. B.* ii. p. 219, no. 9051 (1870).

Polyphasia lugubris, *Blyth, J. A. S. Beng.* xii. 1843, p. 244.

Surniculus dicruroides, *Blyth, Cat. B. Mus. As. Soc.* 1849, p. 72; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 696 (1856); *Jerd. B. India*, i. p. 336 (1862); *Swinh. P. Z. S.* 1871, p. 394; *Holdsworth, P. Z. S.* 1872, p. 431; *Hume, Str. F.* 1874, p. 472; *David & Oust. Ois. Chine*, p. 61 (1877).

Surniculus lugubris, *Blyth, Cat. B. Mus. As. Soc.* p. 72 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 695 (1856); *Sclat. P. Z. S.* 1863, p. 209; *Walden, Ibis*, 1872, p. 368; *Salvad. Ucc. di Borneo*, p. 63 (1874); *Sharpe, Ibis*, 1877, p. 8; *Tweeddale, t. c.* p. 287; *id. P. Z. S.* 1878, p. 613; *Hume & Davison, Str. F.* vi. pp. 159, 502 (1878); *Ball, Str. F.* vii. p. 207 (1878); *Salvad. Ann. Mus. Civ. Gen.* 1879, p. 184; *Sharpe, Ibis*, 1879, p. 244; *id. P. Z. S.* 1879, p. 328; *Hume, Str. F.* viii. pp. 54, 89 (1879); *Legge, B. Ceylon*, p. 243 (1880); *Hume, Str. F.* ix. p. 248 (1880); *Wardlaw Ramsay, Tweeddale's Orn. Works*, App. p. 656 (1881); *Sharpe, P. Z. S.* 1881, p. 792; *Oates, Handb. B. Br. Burm.* ii. p. 112 (1883); *Blasius, Verh. zool.-bot. Ges. Wien*, xxxiii. p. 30 (1883); *Büttik. Notes Leyden Mus.* 1886, p. 27; *Sharpe, Ibis*, 1888, p. 394, 1890, p. 10; *Whitehead, t. c.* p. 46.

Cacangelus lugubris, *Cab. & Heine, Mus. Hein.* iv. p. 17 (1862); *A. Müll. J. f. O.* 1882, p. 404.

Cacangelus dicruroides, *Cab. & Heine, Mus. Hein.* iv. p. 18, note (1862).

Surniculus velutinus (*nec Sharpe*), *Tweeddale, P. Z. S.* 1879, p. 69.

*Adult*. Black, with a deep green gloss, brightest on the back, wings, and tail, and slightly more purple on the head and neck; on the nape a few white feathers partially hidden; upper tail-coverts with some white spots next to their shafts; beneath black, not quite so brightly glossed with green; the hinder half of the thighs

and thigh-coverts white; under tail-coverts barred and tipped with white; tail with the outer feather barred and tipped with white, the bars being broadest towards the inner edges of the shafts; the penultimate feathers with a few pale spots on their quills; under wing-coverts greenish black like the body; quills blackish brown, each feather with a large white blotch on the inner web, forming a diagonal band across the under surface of the wing: bill black, with the gape and inside of the mouth orange-red: irides brown; legs and claws black. Total length 10·3 inches, culmen 0·8, wing 5, tail 5·7, tarsus 0·65.

*Immature.* Slightly less glossy, of a more violet shade, and with clear white terminal spots to many of the feathers irregularly dispersed over the plumage; under wing-coverts irregularly barred with white, and the white bar across the quills broader than in the adult; the tail rather more barred with white, the white bars being much more distinct on the outer feathers, and the penultimate ones partially barred near their quills, and all the feathers with white spots at their tips.

This species varies considerably in the shape of the tail, which is sometimes very much forked, with the long feathers curved outwards towards their ends, but is sometimes square, the outer feather on each side being always short. The white of the nape is often absent, and the amount of the white spotting of the upper tail-coverts varies greatly. The most constant characters are the white spot and bar on the under surface of the quills, the bars on the under tail-coverts, and the bars on the outer tail-feathers, the latter varying in amount according to age. The immature bird, *Cuculus albopunctatus*, Drap., has white spots which vary in number and size, the last to disappear with age being those at the ends of the tail-feathers. The type specimens of *C. lugubris*, Horsf., from Java, and *C. dicruroides*, Hodgs., from Nepal, are remarkably similar; and after comparing more than one hundred specimens from Java, Sumatra, Singapore, Tenasserim, Burmah, the Indian Peninsula, and Ceylon, I can find no trace of distinctive character. In the specimens from Malacca there is a tendency to form a rather small race with a square tail (not counting the outer feather) and occasionally a slightly greyer shade on the underparts, characters which are found more constantly in Bornean specimens, while a perfectly similar form occurs in Palawan.

*Hab.* The same as that of the genus, with the exception of the islands of Negros, Mindanao, Basilan, and Batchian.

| | | |
|---|---|---|
| *a*. Ad. sk. | Java (*Horsfield*). | India Museum. (Type of species.) |
| *b*, *c*, *d*. Ad. sk. | Java. | Tweeddale Coll. |
| *e*. Ad. sk. | Java (*Mus. Lugd.*). | Seebohm Coll. |
| *f*, *g*. ♀ ad. sk. | W. Java (*A. R. Wallace*). | |
| *h*, *i*. Ad. et juv. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *k*, *l*, *m*. Ad. sk. | Sumatra (*C. Bock*). | Tweeddale Coll. |
| *n*, *o*. Ad. sk. | Lumbidan (*Sir Hugh Low*). | R. B. Sharpe, Esq. [P.]. |

| | | |
|---|---|---|
| *p*. Ad. sk. | Sarawak (*H. T. Ussher*). | Tweeddale Coll. |
| *q*. Imm. sk. | Sarawak (*A. Everett*). | Seebohm Coll. |
| *r*. Ad.; *s*. Juv. sk. | Marup and Tagora (*A. Everett*). | Tweeddale Coll. |
| *t*, *u*, *v*. ♂ ♀ ad. sk. | Puerto Princesa, Palawan, Dec., Jan. (*A. Everett*). | Tweeddale Coll. |
| *w*. ♂ ad. sk. | Singapore Island, Feb. (*W. Davison*). | Hume Coll. |
| *x*, *y*. ♂ ad. et juv. sk. | Johore, March, July (*W. Davison*). | Hume Coll. |
| *z*, *a'*, *b'*, *c'*. Ad.; *d'*. Juv. sk. | Malacca, July, Aug. (*W. Davison*). | Hume Coll. |
| *e'*. ♂ ad.; *f'*. Juv. sk. | Malacca (*A. R. Wallace*). | |
| *g'*, *h'*. Ad.; *i'*. Juv. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *k'*. Ad.; *l'*, *m'*. ♂ ♀ juv. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *n'–s'*. ♂ ad. et juv.; *t'*, *u'*, *v'*. ♀ ad. et juv. sk. | Salangore, Feb., April, May, July, Sept. (*W. Davison*). | Hume Coll. |
| *w'*. Ad. sk. | Bangkok, Siam. | Tweeddale Coll. |
| *x'*. Ad. sk. | Siam. | Seebohm Coll. |
| *y'*. ♀ ad. sk. | South Tenasserim, Dec. 7 (*E. W. Oates*). | Forbes Coll. |
| *z'*. ♂ ad.; *a''*, *b''*. ♀ ad. sk. | Bankasoon, Dec. (*W. Davison*). | Hume Coll. |
| *c''*. ♀ ad. sk. | Malewoon, Jan. 9 (*W. D.*). | Hume Coll. |
| *d''*, *e''*. ♂ ♀ ad. sk. | Choulai Creek, S. of Mergui, Dec. (*W. D.*). | Hume Coll. |
| *f''*, *g''*, *h''*. ♂ ad. et juv.; *i''*. ♀ ad. sk. | Mergui, June, Nov. (*W. D.*). | Hume Coll. |
| *k''*, *l''*. ♀ ad. et imm. sk. | Tavoy, April 15 (*W. D.*). | Hume Coll. |
| *m''*. ♂ juv. sk. | Foot of Mount Nwalabo, April 7 (*W. D.*). | Hume Coll. |
| *n''*. ♂ ad. sk. | Yea, March 28 (*W. D.*). | Hume Coll. |
| *o''*. ♂ ad. sk. | Amherst, Dec. 9 (*W. D.*). | Hume Coll. |
| *p''*. ♂ ad. sk. | Moulmein, Dec. 1 (*W. D.*). | Hume Coll. |
| *q''*. ♀ ad. sk. | Assoon, March 12 (*W. Limborg*). | Tweeddale Coll. |
| *r''*, *s''*. ♂ ad.; *t''*, *u''*. ♀ ad. sk. | Lower Pegu, Feb., March, Sept., Nov. (*E. W. O.*). | Oates Coll. |
| *v''*. ♂ ad. sk. | Kyouk Phyon, Burmah, April 20 (*J. Armstrong*). | Hume Coll. |
| *w''*. ♂ ad. sk. | Tonghoo Hills, March 8 (*R. G. W. R.*). | Tweeddale Coll. |
| *x''*. ♀ imm. sk. | Yay-tho, June 8 (*R. G. W. R.*). | Tweeddale Coll. |
| *y''*. ♀ ad. sk. | Karen-nee, March 16 (*R. G. W. R.*). | Tweeddale Coll. |
| *z''*. Ad. sk. | Mandalay, Sept. 20. | Dr. J. Anderson [C.]. |
| $a^3$. Ad. sk. | Comillah, Tippera, March. | Hume Coll. |
| $b^3$, $c^3$, $d^3$. ♀ ad. sk. | Cachar, April, June (*J. Inglis*). | Hume Coll. |
| $e^3$, $f^3$, $g^3$. ♂ ad.; $h^3$. ♀ ad.; $i^3$, $k^3$. Imm. sk. | Dibrughur, Assam, March, April, May, July, Aug. (*J. R. Cripps*). | Hume Coll. |
| $l^3$, $m^3$. ♂ ♀ ad. sk. | N. Khasia Hills, Feb., April (*A. W. Chennell*). | Tweeddale Coll. |

| | | |
|---|---|---|
| $n^3$–$r^3$. ♂ ad.; $s^3$. ♀ ad. sk. | Dhollah, Assam, April to June (*J. Cockburn*). | Hume Coll. |
| $t^3$, $u^3$. ♂ ad. sk. | Tippook, Assam, April (*J. C.*). | Hume Coll. |
| $v^3$, $w^3$, $x^3$. ♂ ad. sk. | Sadhyia, Assam, April, May (*J. C.*). | Hume Coll. |
| $y^3$. Ad. sk. | Lower Hills, Bhootan Dooars, May (*L. Mandelli*). | Hume Coll. |
| $z^3$–$i^4$. Ad. et juv. sk. | Sikhim, March to Nov. (*L. M.*). | Hume Coll. |
| $k^4$, $l^4$. Ad. sk. | Darjiling. | Tweeddale Coll. |
| $m^4$–$q^4$. Ad. sk. | Mongphoo, near Darjiling, March, Oct. | Hume Coll. |
| $r^4$–$v^4$. Ad. sk. | Native Sikhim, May to July, Nov. (*L. Mandelli*). | Hume Coll. |
| $w^4$, $x^4$. Ad.; $y^4$. Juv. sk. | Nepal. | Hodgson Coll. |
| $z^4$. Ad. sk. | Nepal. (Type of *Pseudornis dicruroides*.) | Hodgson Coll. |
| $a^5$, $b^5$. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| $c^5$. Ad. sk. | Raipur, Central Prov., July. | Hume Coll. |
| $d^5$. ♂ ad. sk. | Coonoor Ghat, Nilghiris, April (*R. G. W. R.*). | Tweeddale Coll. |
| $e^5$–$k^5$. Ad. et imm. sk. | Ceylon, July, Dec. | Tweeddale Coll. |
| $l^5$, $m^5$. ♂ ad. sk. | West Ceylon, July, Aug. | Seebohm Coll. |
| $n^5$. Bones of trunk. | Nepal. | Hodgson Coll. |

## 2. Surniculus muschenbroeki.

Surniculus muschenbroeki, *Meyer in Rowley's Orn. Miscell.* iii. p. 164 (1878); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 461 (1878); *id. Orn. Papuasia*, i. p. 357 (1880).

"Black, with a greenish-blue metallic gloss on the wings, mantle, and tail. Head, neck, back, uropygium, and underparts black, but velvety, not glossy. Underside of the wing-feathers brownish, the white spots on the basal third of the inner webs forming a band. Tail of Drongo-like shape; short outer rectrices spotted and partly banded with white. On the thighs a thick plumage of shining white feathers with greenish base. (One white feather on the back of the neck appears not to constitute a specific character.) Bill black. Feet brownish above, light below. Total length 265 mm. wing 140, tail 155, bill 19, tarsus 16." (*A. B. Meyer.*)

*Hab.* Batchian.

This species is only known by the type, which is in the Dresden Museum.

## 3. Surniculus velutinus.

Surniculus velutinus, *Sharpe, Tr. Linn. Soc.* ser. 2, *Zool.* i. p. 320 (1877); *Tweeddale, P. Z. S.* 1877, p. 823, 1878, p. 945; *Wardlaw Ramsay, Tweeddale's Orn. Works*, App. p. 659 (1881).

*Adult.* Very closely allied to *S. lugubris*; tail always square, with the exception of the outer pair of feathers, which are much shorter; it differs in having the head, back, throat, and breast

velvety black, with absolutely no trace of white on any of the tail-coverts, and a distinct narrow white basal edging to the tail-feathers; iris dark chocolate-brown; bill and claws black; feet bluish grey" (*A. Everett*). Total length 8 inches, culmen 0·9, wing 4·7, tail 4·3, tarsus 0·55.

The sexes are similar in plumage.

*Hab.* Islands of Mindanao, Malamaui, and Basilan in the Philippines.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Butuan, N. Mindanao, May (*A. Everett*). | Tweeddale Coll. |
| *b*. ♀ ad. sk. | Zamboanga, April (*A. Everett*). | Tweeddale Coll. |
| *c*, *d*. ♂ ad. sk. | Basilan, May (*A. Everett*). | Tweeddale Coll. |

## 5. HIEROCOCCYX.

| | Type. |
|---|---|
| Hierococcyx, *S. Müll. Verh. Land- en Volk.* p. 233 (1839–44) | H. fugax. |

*Range.* Indian Peninsula; Burmese countries to China and Eastern Siberia; throughout the Malayan Peninsula and Archipelago to Celebes.

*Key to the Species.*

*a*. Under surface of quills barred.
  *a'*. Throat and chest not longitudinally striped in adults; chin grey.
    *a''*. With bars on the breast.
      *a'''*. Colour darker; crown greyer than the back.
        $a^4$. Size larger; wing 8 inches: grey of head and chin separated by a broad white band which extends from the fore part of the eye to the throat ..... *sparverioides*, p. 232.
        $b^4$. Size smaller; wing 7·4 inches: head and throat grey, the latter only slightly mottled with white.. *bocki*, p. 234.
      *b'''*. Colour paler; crown and back uniform pale grey. Wing 7·5 inches.. *varius*, p. 234.
    *b''*. With no bars on the breast; colour above uniform dark grey. Wing 7 inches ..... *fugax*, p. 236.
  *b'*. Throat and chest longitudinally striped; colour above brown, greyer on the crown.
    *c''*. With no grey or black on the chin; size smaller. Wing 5·6 inches ..... *nanus*, p. 238.
    *d''*. With the chin grey or black; size larger (wings as above) ..... [juv. pp. 232–238. *sparverioides* and allies,
*b*. Under surface of quills not barred ..... *crassirostris*, p. 239.

### 1. Hierococcyx sparverioides.

? Coucou à ventre rayé de l'Isle de Panay, *Sonn. Voy. Nouv. Guin.* i. p. 120, pl. 79 (1776).

? Coucou brun et jaune à ventre rayé, *Buff. Hist. Nat. Ois.* vi. p. 379 (1779).

? Cuculus flaviventris, *Scop. Del. Flor. et Faun. Insubr.* ii. p. 89 (*ex Sonn.* 1786); *Strickl. J. A. S. Beng.* 1844, p. 390, note.

? Cuculus radiatus, *Gm. S. N.* i. p. 420 (*ex Sonn.* 1788).

Cuculus sparveroides, *Vig. P. Z. S.* 1831, p. 173; *Gould, Cent. Himal. B.* pl. 53 (1832); *Blyth, J. A. S. Beng.* xi. p. 898 (1842), xii. p. 240 (1843); *Hodgs. in Gray's Zool. Misc.* p. 85; *Gray, Cat. Mamm. & B. Nepal pres. Hodgs.* p. 120 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 70 (1849); *Schl. Mus. Pays-Bas*, Cuculi, p. 15 (pt., 1864); *David & Oust. Ois. Chine*, p. 63 (1877); *Blakiston, Ibis*, 1878, p. 228.

Hierococcyx sparveroides, *Bp. Consp.* i. p. 104 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 699 (1856); *Jerd. B. Ind.* i. p. 331 (1862); *Blyth, Ibis*, 1866, p. 362; *Jerd. Ibis*, 1872, p. 14; *Hume, Nests & Eggs Ind. B.* p. 135 (1873); *id. Str. F.* iii. p. 80 (1875); *Armstrong, Str. F.* iv. p. 311 (1876); *Tacz. J. f. O.* 1876, p. 201; *Hume & Davison, Str. F.* vi. p. 157 (1878); *Ball, Str. F.* vii. p. 207 (1878); *Hume, Str. F.* viii. pp. 54, 89 (1879); *Scully, t. c.* p. 256; *Bingham, Str. F.* ix. p. 167 (1880); *Hume, t. c.* p. 248; *Davison, Str. F.* x. p. 359; *Oates, Handb. B. Br. Burm.* ii. p. 108 (1883); *Marshall, Ibis*, 1884, p. 411; *A. Müll. J. f. O.* 1885, p. 157; *Salvad. Ann. Mus. Civ. Gen.* 1887, p. 581; *Sharpe, Ibis*, 1890, p. 11; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 384 (1890).

Cuculus strenuus, *Gould, P. Z. S.* 1856, p. 96; *id. B. Asia*, vi. pl. 42 (1856); *Blyth, Ibis*, 1866, p. 362.

Hierococcyx sparverinus, *Cab. & Heine, Mus. Hein.* iv. p. 28, note (1862).

Hierococcyx strenuus, *Cab. & Heine, Mus. Hein.* iv. p. 28, note (1862); *Hume, Pr. A. S. Beng.* 1872, p. 71; *Walden, Tr. Z. S.* ix. p. 161 (1875); *Sharpe, P. Z. S.* 1879, p. 327; *Blasius, Ornis*, ii. p. 306 (1888); *Everett, P. Z. S.* 1889, p. 225; *Whitehead, Ibis*, 1890, p. 46.

*Adult.* Above brown with a bronzy gloss, changing gradually into grey on the back of the neck and crown; the outer tail-coverts barred with white, and the longest ones often with darker ends and narrow pale edges; tail with about five distinct dark bars and narrow pale tips to the feathers, seldom much shaded with rufous; sides of the head and chin grey, with a broad white band from the front of the eye to the white on the throat, separating the grey of the head from the chin; upper throat white, changing on the lower throat and front of the chest into rufous, and the whole mottled with pale grey; remainder of the underparts white, with the breast down to the thighs broadly barred with dusky brown and partially washed with rufous; under wing-coverts white, shaded with rufous; quills dusky brown with numerous white or buff partial bars on their inner webs: "bill black, with the base of the lower mandible pale green; iris, eyelids, legs, and claws bright gamboge-yellow" (*W. Davison*). Total length 15·5 inches, culmen 1·1, wing 8·1, tail 7·5, tarsus 1.

*Immature.* Differs from the adult in the grey of the upper parts being confined to the crown, the back of the neck mottled with rufous, the feathers of the back and wings more or less edged or barred with rufous. Under surface white washed with buff; chin generally darker, often black; throat and front of the chest broadly striped, the breast with broad short bars to the feathers.

*Hab.* From Japan and Eastern Siberia throughout China to the Burmese countries, Malayan Peninsula, Borneo, and the Philippines. It ranges west throughout Northern and Central India.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Mynall, Travancore, Jan. | F. W. Bourdillon, Esq. [C.]. |
| *b*. ♂ ad. sk. | Ootacamund, Nilghiris, Feb. 12 (*W. Davison*). | Hume Coll. |
| *c*. Ad. sk. | Coonoor. | Hume Coll. |
| *d*, *e*. ♀ ad. et imm. sk. | Kotagherry, Dec. 7 (*Miss Cockburn*). | Hume Coll. |
| *f*. ♂ ad. sk. | Simla, Sept. 20 (*A. O. H.*). | Hume Coll. |
| *g*. ♂ juv. sk. | Binsur, Almorah, June 25. | Hume Coll. |
| *h*. ♂ ad. sk. | Futtehgurh district, May 24 (*A. Anderson*). | Seebohm Coll. |
| *i*, *k*. ♂ ♀ imm. sk. | Khatmandu, Nepal Valley, Aug. (*J. Scully*). | Hume Coll. |
| *l*. Ad.; *m*. Juv. sk. | Nepal. | Hodgson Coll. |
| *n*, *o*, *p*. Ad.; *q*. Juv. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *r*, *s*. Ad.; *t*. Imm. sk. | Native Sikhim, April, Sept. (*L. Mandelli*). | Hume Coll. |
| *u*–*a'*. Ad.; *b'*–*g'*. Imm. sk. | Sikhim, Jan., Nov. (*L. Mandelli*). | Hume Coll. |
| *h'*, *i'*. Ad.; *k'*, *l'*, *m'*. Imm. sk. | Darjeeling. | Hume Coll. |
| *n'*. Ad. sk. | Darjeeling, June (*H. J. Elwes*). | Tweeddale Coll. |
| *o'*. Ad. sk. | Assam. | Gould Coll. |
| *p'*. ♂ ad. sk. | Kamroop, Assam, Dec. (*A. W. Chennell*). | Tweeddale Coll. |
| *q'*. ♂ ad. sk. | Dibrughur, Feb. 15 (*J. R. Cripps*). | Hume Coll. |
| *r'*. ♂ juv. sk. | Shillong, Aug. 23 (*J. Cockburn*). | Hume Coll. |
| *s'*. Imm. sk. | N. Khasia Hills, March (*A. W. Chennell*). | Tweeddale Coll. |
| *t'*. Ad. sk. | Cachar (*J. Inglis*). | Hume Coll. |
| *u'*, *v'*. ♂ ♀ imm. sk. | Manipur, April, May (*A. O. H.*). | Hume Coll. |
| *w'*. ♂ juv. sk. | Karen-nee, Burmah, March 24 (*R. G. W. R.*). | Tweeddale Coll. |
| *x'*, *y'*. Ad. et imm. sk. | Thayetmyo. | Hume Coll. |
| *z'*. ♂ imm. sk. | Yay-tho, Burmah, Aug. 6 (*R. G. W. R.*). | Tweeddale Coll. |
| *a''*. ♂ ad. sk. | Tonghoo, Burmah, Dec. 31 (*R. G. W. R.*). | Tweeddale Coll. |
| *b''*, *c''*. ♂ ad.; *d''*, *e''*. ♂ imm. sk. | Lower Pegu, Dec., Jan. | Oates Coll. |

| | | |
|---|---|---|
| *f''*. ♂ ad. sk. | Pahpoon, Tenasserim, Jan. (*W. Davison*). | Hume Coll. |
| *g''–k''*. ♂ ad. et imm.; *l''*, *m''*. ♀ ad. sk. | Thatone, Dec. (*W. Davison*). | Hume Coll. |
| *n''*, *o''*, *p''*. ♂ ad. sk. | Amherst, Dec., Jan. | Hume Coll. |
| *q''*, *r''*. ♂ ad.; *s''*. ♀ ad. sk. | Moulmein, Nov., Dec. | Hume Coll. |
| *t''*. Ad. sk. | Salanga Island. | Capt. Weber [C.]. |
| *u''*. Ad. sk. | Penang. | Pinwill Coll. |
| *v''*, *w''*. Ad. sk. | Malacca. | Pinwill Coll. |
| *x''*. Ad. sk. | Manila, Luzon. | Gould Coll. (Type of *C. strenuus*.) |
| *y''*. ♀ juv. sk. | Ningpo, China, June (*R. Swinhoe*). | Seebohm Coll. |
| *z''*. ♂ ad. sk. | Foochow, Szechuen, May (*R. Swinhoe*). | Seebohm Coll. |
| *a*$^3$. ♂ ad. sk. | Changchow, Szechuen, May 16 (*R. Swinhoe*). | Tweeddale Coll. |

### 2. Hierococcyx bocki.

Hierococcyx bocki, *Wardlaw Ramsay*, *Ibis*, 1886, pp. 157–159; *Sharpe*, *Ibis*, 1888, p. 394, 1890, p. 11.

*Adult* (type of species). Similar to *H. sparverioides*, but smaller, and greyer on the sides of the head and upper half of the throat; sides of head uniform grey with the chin, and with no white in front of the eyes and cheeks; upper half of throat nearly uniform grey like the chin, being only slightly mottled with white. Total length 13·2 inches, culmen 0·95, wing 7·5, tail 7·3, tarsus 0·9.

*Hab.* Mountains of Sumatra and North-western Borneo (Kina Balu).

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Mt. Sago, Sumatra, Sept. 5 (*C. Bock*). | Tweeddale Coll. (Type of species.) |

### 3. Hierococcyx varius.

Cuculus varius, *Vahl*, *Skriv. af Natur. Selsk.* (*Copenhagen*), iv. p. 61 (1797); *Blyth*, *Cat. B. Mus. As. Soc.* p. 70 (1849); *Kelaart*, *Cat. Ceylon B.*, *App. Prodr.* p. 60 (1853); *Layard*, *Ann. & Mag. Nat. Hist.* (2) xiii. p. 452 (1854); *Schl. Mus. Pays-Bas*, Cuculi, p. 14 (1864).

? Cuculus tenuirostris, *Less. Traité*, p. 146 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 69.

Cuculus ejulans, *Sundev. Physiogr. Sällsk. Tidskr.* i. p. 54 (1838); *Strickl. Ann. & Mag. Nat. Hist.* 1846, p. 398.

Hierococcyx varius, *Horsf. & Moore*, *Cat. B. Mus. E.I. Co.* ii. p. 700 (1856); *Cab. & Heine*, *Mus. Hein.* iv. p. 29 (pt., 1862); *Jerd. B. Ind.* i. p. 329 (1862); *Blyth*, *Ibis*, 1866, p. 361; *Holdsworth*, *P. Z. S.* 1872, p. 431; *Jerd. Ibis*, 1872, p. 13; *Adam*, *Str. F.* i. p. 373 (1873); *Blyth*, *J. As. Soc.* (*Ceylon Branch*), 1874, p. 67;

*Ball, Str. F.* ii. p. 393 (1874); *Fairbank, Str. F.* iv. p. 255 (1876); *Hume, t. c.* p. 392; *Fairbank, Str. F.* v. p. 397 (1877); *Ball, t. c.* p. 413, vii. p. 207 (1878); *Cripps, t. c.* p. 264; *Hume, Str. F.* viii. p. 88 (1879); *Scully, t. c.* p. 255; *Legge, B. Ceylon*, i. p. 240 (1880); *Vidal, Str. F.* ix. p. 55 (1880); *Butler, t. c.* p. 388; *Reid, Str. F.* x. p. 27 (1881); *Davison, t. c.* pp. 299, 359; *Swinh. & Barnes, Ibis*, 1885, p. 63; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 383 (1890).

Hierococcyx nisoides, *Blyth, Ibis*, 1866, p. 362.

*Adult.* Very similar in plumage to *H. sparverioides*, but smaller and paler, and intermediate between that bird and *H. fugax*. Above uniform leaden grey, much paler than *H. fugax*, and having the white bars on the outer tail-coverts more pronounced. The tail is similar to that of *H. sparverioides*. The grey and white on the head and chin are similarly distributed but paler; remainder of the underparts white, shading into pale rufous on the lower throat and front of the chest, these feathers being mottled with pale grey. The sides of the body which are generally washed with rufous are broadly barred with dusky grey, which at once distinguishes the species from *H. fugax* and indicates its affinities to *H. sparverioides*. "Iris yellow, orbits yellow; bill black, greenish below, yellowish at gape; legs and feet dirty yellow" (*W. Davison*) Total length 13·5 inches, culmen 0·95, wing 7·5, tail 7, tarsus 0·9.

*Immature.* Similar to that of *H. sparverioides* and *H. fugax*, but intermediate in size.

*Hab.* Indian Peninsula and Ceylon, ranging into Assam, Tenasserim, and Burma.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | N.W. Himalayas (*Griffith*). | India Museum. |
| *c.* ♂ ad. sk. | Saharunpur, Nov. 2 (*A. O. H.*) | Hume Coll. |
| *d.* Ad. sk. | Dehra Dhoon. | Hume Coll. |
| *e.* Ad. sk. | Naini Tal. | Hume Coll. |
| *f.* ♀ ad. sk. | Bareilly, May 22. | Hume Coll. |
| *g.* Ad.; *h.* Juv. sk. | Etawah, Sept. 19. | Hume Coll. |
| *i.* ♀ ad. sk. | Allahabad, April. | Seebohm Coll. |
| *k.* Imm. sk. | Lucknow, April 7. | Colonel Way [P.]. |
| *l.* Imm. sk. | Gondah, Oudh (*S. Pinwill*). | Tweeddale Coll. |
| *m, n.* ♂ ad.; *o.* ♀ ad. sk. | Futtehgurh District, March, Aug. (*A. Anderson*). | Hume Coll. |
| *p, q, r.* Ad. sk. | Mogul Serai, Jan., Feb., Nov. (*W. E. Brooks*). | Hume Coll. |
| *s, t.* ♂ ad.; *u.* ♀ ad. sk. | Nepal Valley, Feb., April, Dec. (*J. Scully*). | Seebohm Coll. |
| *v, w.* Ad.; *x, y.* Imm. sk. | Nepal. | Hodgson Coll. |
| *z, a'.* Ad.; *b'.* Juv. sk. | Nepal (*B. Hodgson*). | India Museum. |
| *c'.* ♂ juv. sk. | Tirhoot, April 5. | Hume Coll. |
| *d'.* Juv. sk. | Rajmahal Hills, Nov. (*V. Ball*). | Hume Coll. |
| *e'.* ♂ ad. sk. | Bhutan (*Pemberton*), | India Museum. |
| *f'.* Ad. sk. | Assam (*M'Clelland*). | India Museum. |
| *g'.* Juv. sk. | Tonghoo. | Seebohm Coll. |
| *h', i', k'.* Ad.; *l', m'.* Juv. sk. | Dacca. | Hume Coll. |

| | | |
|---|---|---|
| *n'*. Juv. sk. | Dacca (*Tytler*). | India Museum. |
| *o'*. ♀ ad. sk. | Assensole, Feb. (*W. E. Brooks*). | Hume Coll. |
| *p'*, *q'*. Ad. sk. | Calcutta, Feb., Dec. | Hume Coll. |
| *r'*, *s'*. Ad.; *t'*. Imm. sk. | Maunbhoom, March, Dec. (*R. C. Beavan*). | Tweeddale Coll. |
| *u'*. ♂ imm. sk. | Raipur, Feb. 24. | Hume Coll. |
| *v'*. Ad.; *w'*. Imm. sk. | Kamptee. | Dr. B. Hinde [P.]. |
| *x'*. Ad. sk. | Seoni District, May (*R. Thomson*). | Hume Coll. |
| *y'*. ♂ juv. sk. | Saugor, Oct. | Hume Coll. |
| *z'*. ♂ ad. sk. | Anadra, Mt. Aboo, July 5. | Hume Coll. |
| *a''*. Ad. sk. | Deesa, Aug. 10 (*E. A. Butler*). | Hume Coll. |
| *b''*. ♂ ad.; *c''*. ♂ imm. sk. | Mhow, Dec. | Colonel Swinhoe [P.]. |
| *d''*. ♂ ad. sk. | Dhulia, Khandeish, Aug. 21 (*J. Davidson*). | Hume Coll. |
| *e''*. ♂ ad. sk. | Ahmednuggur, Dec. (*S. B. Fairbank*). | Tweeddale Coll. |
| *f''*. ♀ ad. sk. | Ratnagiri, June 26 (*J. Armstrong*). | Hume Coll. |
| *g''*. ♂ ad. sk. | Belgaum, May 30 (*E. A. Butler*). | Hume Coll. |
| *h''*, *i''*. Ad. sk. | Malabar. | Tweeddale Coll. |
| *k''*. ♂ juv. sk. | Bangalore, May 26 (*R. G. W. R.*). | Tweeddale Coll. |
| *l''–o''*. ♂ ad. sk. | Wynaad, March to May (*W. Davison*). | Hume Coll. |
| *p''*. ♂ juv. sk. | Burliar, Nilghiris, Sept. 12. | Hume Coll. |
| *q''*. ♂ ad. sk. | Kotagherry, Nilghiris, Feb. 13 (*Miss Cockburn*). | Hume Coll. |
| *r''–u''*. ♂ ad. sk. | Ootacamund, Feb., April (*W. Davison*). | Hume Coll. |
| *v''*. ♂ ad. sk. | Coonoor, March 5 (*Dr. F. Day*). | Hume Coll. |
| *w''*. ♀ ad. sk. | Mynall, Travancore (*F. W. Bourdillon*). | Hume Coll. |
| *x''*. ♀ juv. sk. | Kandy, Ceylon (*A. White*). | R. B. Sharpe, Esq. [P.]. |
| *y''*. Ad. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |

### 4. Hierococcyx fugax.

Cuculus fugax, *Horsf. Tr. Linn. Soc.* xiii. p. 178 (1821); *Vig. Mem. Raffl.* p. 671 (1830); *Sykes, P. Z. S.* 1832, p. 98; *Jerd. Madr. J.* xi. p. 219 (1840); *S. Müll. Verh. Land- en Volk.* p. 233 (1839–44); *Blyth, J. A. S. Beng.* xi. p. 900 (1842), xii. p. 240 (1843), xiv. pp. 204, 943 (1845); *id. Ann. & Mag. Nat. Hist.* 1846, p. 385; *Gray, Cat. Mamm. & B. Nepal pres. Hodgs.* p. 120 (1846).

Cuculus lathami, *J. E. Gray, Ill. Ind. Zool.* pl. 34. fig. 2 (1834).

Cuculus vagans, *S. Müll. Verh. Land- en Volk.* p. 233, note (1839–44).

Cuculus nisicolor, *Hodgs. Icon. ined. in Brit. Mus., Passeres,* pl. 357. fig. 1 (no. 872); *Blyth, J. A. S. Beng.* 1843, p. 943, 1846, p. 18.

Cuculus flaviventris (*nec Scop.*), *Strickl. J. A. S. Beng.* 1844, p. 390, note.

Hierococcyx flaviventris, *Blyth, J. A. S. Beng.* p. 390, note (1844); *id. Ibis*, 1866, p. 362.

Hierococcyx fugax, *Bp. Consp.* i. p. 104 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 28, note (1862); *Salvad. Ann. Mus. Civ. Gen.* v. p. 65 (1874); *Tweedd. Ibis*, 1877, p. 288; *Sharpe, Ibis*, 1877, p. 7; *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 185 (1879); *Sharpe, Ibis*, 1879, p. 245; *Hume, Str. F.* viii. p. 53 (1879); *Kelham, Ibis*, 1881, p. 391; *Wardlaw Ramsay, Ibis*, 1884, p. 333; *A. Müll. J. f. O.* 1885, p. 157; *Büttik. Notes Leyd. Mus.* 1886, p. 28; *Sharpe, P. Z. S.* 1887, p. 442; *id. Ibis*, 1890, p. 10.

Hierococcyx vagans, *Bp. Consp.* i. p. 104 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 30, note (1862).

Cuculus hyperythrus, *Gould, P. Z. S.* 1856, p. 96; *id. B. Asia*, vi. pl. 431 (1856); *Swinh. P. Z. S.* 1871, p. 395; *David & Oust. Ois. Chine*, p. 64 (1877); *Layard, Ibis*, 1878, p. 327; *Seebohm, Ibis*, 1884, p. 36.

Hierococcyx pectoralis, *Cab. & Heine, Mus. Hein.* iv. p. 27 (1862); *Walden, Tr. Z. S.* ix. p. 161 (1875); *Tweedd. P. Z. S.* 1878, p. 946.

Hierococcyx hyperythrus, *Cab. & Heine, Mus. Hein.* iv. p. 30, note (1862); *Walden, Tr. Z. S.* ix. p. 161 (1875); *Wardlaw Ramsay, Ibis*, 1886, p. 157; *Tweedd. P. Z. S.* 1878, p. 946.

Hierococcyx sparveroides (*nec Vig.*), *Schrenck, Reis. im Amurlande, Vög.* p. 257, pl. 10 (1859–67).

Hierococcyx nisicolor, *Jerd. B. Ind.* i. p. 330 (1862); *Blyth, J. A. S. Beng.* xxx. p. 93 (1861); *id. Ibis*, 1866, p. 361; *Jerd. Ibis*, 1872, p. 14; *Hume, Str. F.* vi. p. 157 (1878); *Jerd. Str. F.* vii. p. 371 (1878); *Hume, Str. F.* viii. pp. 53, 88 (1879); *Oates, Handb. B. Br. Burm.* ii. p. 109 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* ii. p. 383 (1890).

*Adult.* Above uniform slaty grey; end of the tail-feathers bright rufous, otherwise very similar to those of *H. sparverioides*: under surface white, with a very variable amount of rufous on the chest, the whole chest being rufous in the type of *Cuculus hyperythrus*, Gould, and only broadly washed on the sides of the feathers in the type of *C. nisicolor* of Hodgson; chin grey; throat white, slightly tinted with grey, and occasionally streaked with brown or rufous; the breast is entirely without bars, which character at once distinguishes it from the foregoing members of the genus; but its most distinctive character is the intensely rufous ending to the tail-feathers, which does not vary with age. Total length 11·8 inches, culmen 1, wing 7, tail 6·2, tarsus 0·85.

*Immature.* Very similar to that of the last two species, but with the dark stripes on the underparts rather narrower and more sharply defined, and the pale ends to the tail bright rufous. "Iris reddish-brown; orbits, gape, feet, and legs yellow; bill basally pale green, apex blackish" (*Wardlaw Ramsay*).

*Nestling.* Similar in plumage to the immature bird, with the back brown and the markings on the breast rather larger. Total length 8·2 inches.

*Hab.* From Amoor-Land through China to the Burmese countries, extending into the Eastern Himalayas on the west, and south

through the Malayan Peninsula to Sumatra, Java, Borneo, and the Philippines.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Nepal. | Hodgson Coll. (Types of *C. nisicolor*.) |
| *c*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *d*–*m*. Ad.; *n*–*r*. Juv. sk. | Native Sikhim, April to Oct. (*L. Mandelli*). | Hume Coll. |
| *s*, *t*, *u*. Ad.; *v*, *w*. Juv. sk. | Sikhim, April to June, Sept. (*L. Mandelli*). | Hume Coll. |
| *x*. Juv. sk. | Darjeeling, June. | Hume Coll. |
| *y*. Juv. sk. | Khasia Hills (*Griffith*). | India Museum. |
| *z*. ♂ ad. sk. | Kokshin-Koolel, Manipur, April 6 (*A. O. H.*). | Hume Coll. |
| *a'*. Ad. sk. | Burmah (*Houghton*). | Tweeddale Coll. |
| *b'*. Ad. sk. | Tonghoo, Burmah. | Oates Coll. |
| *c'*. ♂ ad. sk. | Pegu, Nov. 25. | Oates Coll. |
| *d'*. Ad. sk. | Thatone, Tenasserim, Dec. 11 (*W. Davison*). | Hume Coll. |
| *e'*. Ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| *f'*. Ad.; *g'*. Juv. sk. | Malacca (*R. G. W. R.*). | Tweeddale Coll. |
| *h'*–*m'*. Ad.; *n'*, *o'*, *p'*. Juv. sk. | Malacca, Feb., March, July, Aug. (*W. Davison*). | Hume Coll. |
| *q'*. ♀ juv. sk. | Gunnong Pulai, Johore, Aug. 1 (*W. Davison*). | Hume Coll. |
| *r'*, *s'*, *t'*, *u'*. Imm. sk. | Singapore. | Tweeddale Coll |
| *v'*. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *w'*. Ad. sk. | Java (*Horsfield*). | India Museum. (Type of species.) |
| *x'*. Imm. sk. | Sarawak, Feb. (*J. Brooke*). | Gould Coll. |
| *y'*, *z'*. ♂ ad.; *a''*. ♂ juv. sk. | Sarawak (*H. Everett*). | Tweeddale Coll. |
| *b''*. Ad. sk. | Lumbidan, N.W. Borneo. | Sir Hugh Low [C.]. |
| *c''*. Ad. sk. | Banjarmassing, Borneo (*J. Motley*). | Wallace Coll. |
| *d''*, *e''*, *f''*. Ad.; *g''*. Juv. sk. | Manila (*Maitland Heriot*). | Tweeddale Coll. |
| *h''*. Juv. sk. | Manila. | Seebohm Coll. |
| *i''*. Ad. sk. | Manila. | Gould Coll. (Type of *C. hyperythrus*.) |
| *k''*. ♂ ad. sk. | Zamboanga, Mindanao, April (*A. Everett*). | Tweeddale Coll. |
| *l''*. Ad. sk. | Yokohama, Japan (*H. Jones*). | Seebohm Coll. |

### 5. Hierococcyx nanus.

Hierococcyx nanus, *Hume*, *Str. F.* v. 1877, p. 490; *id.* & *Davison*, *Str. F.* vi. 1878, p. 157; *Hume*, *Str. F.* viii. 1879, p. 88; *A. Müll. J. f. O.* 1882, p. 405; *Oates*, *Handb. B. Br. Burm.* ii. p. 110 (1883); *Sharpe*, *Ibis*, 1890, p. 11.

*Adult.* Very similar in plumage to the immature birds of

*H. fugax*, but differs in its smaller size; the brownish-grey crown and nape are separated from the brown of the back by a partial collar formed by a rufous and white mottling on the back of the neck. Tail tipped with dirty white. Chin buff, like the throat; a broad dark brown moustachial band from below the eye is well marked, and the dark stripes on the underparts are more sharply defined and less rufous. Total length 10·5 inches, culmen 0·9, wing 5·6, tail 5·6, tarsus 0·75.

*Hab.* Tenasserim to the Salanga Islands, reoccurring again in the mountains of North-western Borneo.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Mergui Islands, Tenasserim (*J. Anderson*). | Tweeddale Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Tavoy, April 19 (*W. Davison*). | Hume Coll. |
| *d*, *e*. ♂ ♀ ad. sk. | Foot of Mt. Nwalabo, April (*W. Davison*). | Hume Coll. |
| *f*. ♂ ad. sk. | Bankasoon, May 16 (*W. Davison*). | Hume Coll. (Type of species.) |
| *g*, *h*, *i*. ♀ ad. sk. | Bankasoon, April, May, June (*W. Davison*). | Hume Coll. |
| *k*. Ad. sk. | Baram, Sarawak. | A. H. Everett, Esq. [P.]. |

### 6. Hierococcyx crassirostris.

Hierococcyx crassirostris, *Walden, Ann. & Mag. N. H.* 1872, p. 305; *id. Tr. Z. S.* viii. p. 116, pl. 13 (1872).
Cuculus crassirostris, *Brüggeman, Abhandl. nat. Ver. Brem.* v. 1876, p. 59.

*Adult* (type of species). Upper half of head grey, slightly mottled with white; nape and back of neck white, with broad dark ends and partial bars to the feathers, passing from dusky grey on the nape into brownish black towards the mantle; remainder of the upper parts rufous-brown, slightly mottled with dusky; tail less rufous than the back, tipped with white and with a broad subterminal black band; the remaining three black bands, which are very distinct underneath, disappear on the two centre feathers, and the pale intervening bands which are white on the outer pair of feathers gradually become more rufous towards the centre one; beneath white, broadly barred with black on the throat and chest; under surface of wings uniform white, with the terminal half of the quills rufous-brown; bill black, passing into yellow on the basal half of the lower mandible; legs and claws yellow. Total length 15 inches, culmen 1, wing 8·3, tail 7·5, tarsus 0·8.

*Immature.* Differs from the adult in having the upper half of the head black, mottled with white above the eye and on the nape; back of the neck rufous, with broad black ends to the feathers; upper parts generally much brighter rufous; the upper back, wing-coverts, and innermost secondaries with broad dusky bars somewhat

obscured, and a dusky subterminal patch to all the quills; beneath buff, with fewer and more irregular dark bars. Total length 13·5 inches, wing 7·9.

The two type specimens which I have described have been well figured by Lord Tweeddale, but the artist does not appear to have noticed that the two centre tail-feathers of the young bird are missing, so that his figure conveys a wrong impression.

*Hab.* Confined to Celebes.

| | | |
|---|---|---|
| *a*. Ad.; *b*. Juv. sk. | Celebes. | Tweeddale Coll. (Types of species.) |
| *c*. Ad. sk. | Celebes. | Seebohm Coll. |

## 6. CUCULUS.

Type.

Cuculus, *Linn. Syst. Nat.* i. p. 168 (1766) ..... C. canorus.
Nicoclarius, *Bp. Consp. Vol. Zygod.* p. 6 (1854) ..... C. intermedius.
Penthoceryx, *Cab. Mus. Hein.* iv. p. 16 (1862) ..... C. sonnerati.
Heteroscenes, *Cab. Mus. Hein.* iv. p. 26 (1862) ..... C. pallidus.

*Range.* The whole of the Old World excepting Polynesia.

*Key to the Species.*

*a*. Upper parts not rufous; under surface of quills barred with white.
  *a'*. Breast whitish, barred with black.
    *a''*. Back and wings brown; head and throat greyish, contrasting with mantle and back; a very distinct broad subterminal black band to the tail. The young have broad buff or white ends to many of the feathers of the upper parts ..... *micropterus*, p. 241.
    *b''*. Crown uniform grey, like the back.
      *a'''*. Basal half of bill yellow, the nostrils being placed in the yellow portion: with a rather well-marked black subterminal bar to the tail, and with some irregular white bands entirely crossing the outer tail-feathers ..... *gularis*, p. 244.
      *b'''*. With less yellow on the bill, the nostrils being always placed in the black portion of the base.
        $a^4$. Upper parts, sides of head, throat, and front of chest grey.
          $a^5$. Larger: wing 8 to 9 inches; bars on breast more dusky. Young with a white patch on the fore part of the crown and another on the nape ..... *canorus*, p. 245.
          $b^5$. Smaller: wing not more than 7·8 inches in length; bars on breast jet-black, broader and more complete transversely. Young with

no white feathers on the fore part of the crown or nape.
$a^6$. Larger: wing more than 6·5 inches ..... *intermedius*, p. 252.
$b^6$. Smaller: wing never more than 6·5 inches ..... *poliocephalus*, p. 255.
$b^4$. With the lower throat and crop chestnut.
$c^5$. Paler: with grey on the chin and upper throat ..... *solitarius*, p. 258.
$d^5$. Darker: throat chestnut, with only a little grey on the base of the chin..... *gabonensis*, p. 259.
$b''$. Breast uniform, not barred with white and black.
$c''$. General plumage black ..... *clamosus*, p. 260.
$d''$. Upper parts ashy brown; underparts uniform stone-colour ..... *pallidus*, p. 261.
*b*. Upper parts more or less rufous; under surface of quills with rufous bars.
$c'$. Above rufous, broadly barred with bronze; beneath white, narrowly barred with brownish black ..... *sonnerati*, p. 262.
$d'$. Above rufous, with black or dusky markings.
$e''$. Crown and lower back not regularly barred with black.
$c'''$. Larger: wing over 7 inches ..... *canorus* juv., p. 247.
$d'''$. Smaller: wing not 6 inches ..... *poliocephalus* juv., [p. 256.
$f''$. Crown and lower back regularly banded with black. [p. 256.
$e'''$. Smaller: wing not 6 inches ..... *poliocephalus* juv.,
$f'''$. Larger: wing over 6·5 inches ..... *intermedius* juv., [p. 254.

## 1. Cuculus micropterus.

Cuculus micropterus, *Gould, P. Z. S.* 1837, p. 137; *Hodgs. Icon. ined. in Bibl. Soc. Zool.* ii. p. 205 (no. 507); *id. in Gray's Zool. Misc.* p. 85 (1844); *Blyth, J. A. S. Beng.* xi. p. 902 (1842), xiv. p. 204, xv. p. 18 (1846); *id. Ibis*, 1862, p. 387; *Jerd. B. Ind.* i. p. 326 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 12 (1864); *Swinhoe, P. Z. S.* 1871, p. 395; *Holdsworth, P. Z. S.* 1872, p. 430; *Jerd. Ibis*, 1872, p. 13; *Wald. Ibis*, 1873, p. 304; *Ball, Str. F.* i. p. 63 (1873); *Hume, Str. F.* ii. pp. 191, 472 (1874); *Brooks, Str. F.* iii. p. 232 (1875); *Hume, Str. F.* iv. p. 156 (1876); *Fairbank, t. c.* p. 255; *David & Oust. Ois. Chine*, p. 64 (1877); *Davidson & Wenden, Str. F.* vii. p. 79 (1878); *Ball, t. c.* p. 207; *Cripps, t. c.* p. 264; *Hume, Str. F.* viii. pp. 53, 88 (1879); *Vidal, Str. F.* ix. p. 55 (1880); *Bingham, t. c.* p. 167; *Hume, t. c.* p. 248; *Butler, t. c.* p. 388; *Legge, B. Ceylon*, i. p. 228 (1880); *Salvad. Orn. Papuasia*, i. p. 330 (1880); *Kelham, Ibis*, 1881, p. 390; *Davison, Str. F.* x. p. 359 (1881); *Oates, Handb. B. Brit. Burmah*, ii. p. 104 (1883); *Marshall, Ibis*, 1884, p. 411; *Styan, Ibis*, 1887, p. 230; *Sharpe, Ibis*, 1890, p. 11.

Cuculus concretus, *S. Müll. Verh. Nat. Ges. Land- en Volk.* p. 236 (1839–44); *Bp. Consp.* i. p. 103 (1850); *Cab. & Heine, Mus. Hein.*

iv. p. 39, note (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 13 (1864); *Gray, Hand-l. B.* ii. p. 216, no. 9009; *Salvad. Ucc. Borneo*, p. 66 (1874); *Sharpe, Ibis*, 1879, p. 245.

Cuculus affinis, "*Hay*," *Blyth, J. A. S. Beng.* xv. p. 18 (1846); *Hume, Str. F.* viii. p. 88 (1879); *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 671 (1881).

Cuculus striatus, *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* (1846, pt.); *Blyth, Cat. B. Mus. As. Soc.* p. 70 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 703, pt. (1856–58); *Swinh. Ibis*, 1861, p. 259, pt.; *Cab. & Heine, Mus. Hein.* iv. p. 37 (1862); *Jerd. B. Ind.* i. p. 328 (1862); *id. Ibis*, 1872, p. 13; *Seebohm, Ibis*, 1878, p. 327; *Blyth & Wald. B. Burmah*, p. 79 (1875); *Hume, Str. F.* xi. p. 70 (1882).

Cuculus fasciatus, *Burm. Verz. Mus. Halle*, p. 54 (1850).

Nicoclarius concretus, *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Cuculus swinhoei, *Cab. & Heine, Mus. Hein.* iv. p. 37, note (1862); *Gray, Hand-l. B.* ii. p. 216, no. 9002.

Cuculus hyperythrus (*nec Gould*), *Swinh. P. Z. S.* 1863, p. 265.

Cuculus michieanus, *Swinh. Ann. & Mag. N. H.* (4) vi. p. 153 (1870); *Jerd. Ibis*, 1872, p. 13.

Cuculus sp., *Salvad. Ann. Mus. Civ. Genov.* xiii. p. 457 (1878).

*Adult.* Above dark brown, shading into slaty grey on the back of the neck and head; tail rather paler brown, with a broad subterminal black bar and a white tip, all the feathers having about five or six white spots on their quills, increasing in size towards the outer feathers, and most of them having white notches on their inner webs; throat grey, sometimes shaded with dusky on the sides of the crop; sides of the head and neck rather darker grey, more like the crown; remainder of the underparts buff or white, rather broadly barred with black, the under tail-coverts being less regularly marked and with fewer bars; under surface of the wings as in *C. canorus*: "iris brown; bill horny, below lighter and tinted with yellow towards the base; gape and eyelids bright yellow; feet and legs duller yellow; two front claws horny, two hind ones yellow" (*C. T. Bingham*). Total length 12 inches, culmen 1, wing 8, tail 6·3, tarsus 0·8.

*Immature.* Above brown, darker on the head; the crown and neck thickly mottled with broad fulvous ends to the feathers; feathers on the back and wings broadly tipped with rufous or buff; tail very similar to that of the adult, but with the pale portion more rufous; beneath buff, barred with black, and mottled with grey on the throat in older specimens.

*Hab.* Indian Peninsula and Ceylon, ranging through the Burmese provinces to Malacca, Java, Sumatra, and Borneo, as far as Ternate in the Moluccas, north to China and Japan.

| | | |
|---|---|---|
| *a*. Ad. sk. | Ceylon. | Hugh Cuming, Esq. [C.]. |
| *b, c*. Ad. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *d*. Ad. sk. | Coonoor, Nilghiris, July 28. | Hume Coll. |
| *e*. Imm. sk. | Malabar. | Seebohm Coll. |
| *f*. ♂ ad. sk. | N. Kanara, May 3 (*H. E. M. James*). | Hume Coll. |

| | | |
|---|---|---|
| *y*. ♂ ad. sk. | Landaur, June 1 (*W. E. Brooks*). | Hume Col |
| *h*. Ad. sk. | Masuri. | Gould Coll. |
| *i*. Ad. sk. | Masuri (*S. Pinwill*). | Tweeddale Coll. |
| *k*, *l*. Ad. sk. | Naini Tal. | Tweeddale Coll. |
| *m*. Juv. sk. | Sewalik Hills. | Hume Coll. |
| *n*, *o*. ♂ ad. st. | Futtehgur District, June 16 (*A. Anderson*). | Seebohm Coll. |
| *p*. Ad. sk. | Sultanpur, Oudh. | Hume Coll. |
| *q*–*s*. Ad.; *t*. Juv. sk. | Nepal. | Hodgson Coll. |
| *u*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *v*. Ad. st. | Nepal. | Hodgson Coll. |
| *w*, *x*, *y*. Ad.; *z*, *a'*, *b'*. Imm. sk. | Native Sikhim, May to July, Sept., Oct. (*L. Mandelli*). | Hume Coll. |
| *c'*–*m'*. Ad.; *n'*–*t'*. Imm. sk. | Sikhim, Jan., March to Oct. (*L. Mandelli*). | Hume Coll |
| *u'*–*a''*. Ad.; *b''*. Juv. sk. | Darjeeling. | Hume Coll. |
| *c''*, *d''*. Ad. sk. | Dacca, March. | Hume Coll. |
| *e''*. Ad. sk. | Assam. | Seebohm Coll. |
| *f''*. ♂ ad. sk. | Dollah, Assam, April 27 (*J. Cockburn*). | Hume Coll. |
| *g''*. Ad. sk. | Cachar (*J. Inglis*). | Hume Coll. |
| *h''*, *i''*. ♂ ad.; *k''*. ♀ ad. sk. | Manipur, April (*A. O. H.*). | Hume Coll. |
| *l''*. Ad. sk. | Comilla, Tippera. | Hume Coll. |
| *m''*. Ad. sk. | Burma. | Seebohm Coll. |
| *n''*. Ad. sk. | Karen Hills, Nov. (*R. G. W. R.*). | Tweeddale Coll. |
| *o''*. ♀ ad. sk. | Thayetmyo, March 26 (*E. W. Oates*). | Hume Coll. |
| *p''*, *q''*. ♂ ad.; *r''*, *s''*. ♂ ♀ juv. sk. | Pegu, April, Aug., Dec. | Oates Coll. |
| *t''*. ♂ ad. sk. | Thoungyeen River, Tenasserim, March 4 (*C. T. Bingham*). | Hume Coll. |
| *u''*. ♂ ad. sk. | Choulai Creek, Dec. 14 (*W. Davison*). | Hume Coll. |
| *v''*. ♂ ad. sk. | Mooleyit, Feb. 21 (*W. Davison*). | Hume Coll. |
| *w''*. Ad. sk. | Cambodia (*Mouhot*). | Tweeddale Coll. |
| *x''*. ♂ ad. sk. | Klang, Salangore, Nov. 11 (*W. Davison*). | Hume Coll. |
| *y''*. Ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| *z''*–*c*$^3$. Ad. et juv. sk. | Malacca. | Tweeddale Coll. |
| *d*$^3$–*g*$^3$. Juv. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *h*$^3$–*l*$^3$. Ad.; *m*$^3$–*o*$^3$. Juv. sk. | Malacca, July, Aug. (*W. Davison*). | Hume Coll. |
| *p*$^3$ ♂ ad. sk. | S. Andamans, Jan. 9 (*R. G. W. R.*). | Tweeddale Coll. |
| *q*$^3$, *r*$^3$. ♂ ♀ juv. sk. | Port Blair, S. Andamans, July, Aug. (*R. J. Wimberley*). | Tweeddale Coll. |
| *s*$^3$. ♂ ad. sk. | Mt. Harriett, S. Andamans, March (*W. Davison*). | Hume Coll. |

| | | |
|---|---|---|
| $t^3$. ♂ ad. sk. | Sumatra. | Wallace Coll. |
| $w^3$. Juv. sk. | Java. | Purchased. |
| $v^3$. Ad. st. | Borneo. | Purchased. |
| $w^3, x^3$. Ad.; $y^3$, $z^3$. Juv. sk. | Sarawak, Borneo, Sept. | A. H. Everett, Esq. [C.]. |
| $a^1$. Ad. sk. | Shanghai (*Capt. Ince*). | Mrs. Ince [P.]. |
| $b^1$. Juv. sk. | Shanghai, China, July 29 (*R. Swinhoe*). | Seebohm Coll. |
| $c^4$. ♂ ad. sk. | Ningpo, China, May (*R. Swinhoe*). | Seebohm Coll. |
| $d^4$. ♂ ad. sk. | Yezo, Japan. | Tweeddale Coll. |
| $e^4$. Imperfect skeleton. | Nepal. | Hodgson Coll. |

## 2. Cuculus gularis.

Le Coucou vulgaire d'Afrique, *Levaill. Ois. d'Afr.* v. p. 20, pls. 20, 21 (1806).

Cuculus gularis, *Steph. Gen. Zool.* ix. p. 83, pl. 17 (1815); *Hartl. Orn. W.-Afr.* p. 189 (1857); *Layard, B. S. Afr.* p. 249 (1867); *Gray, Hand-l. B.* ii. p. 215, no. 8986 (1870); *Heugl. Orn. N.O.-Afr.* pp. 781, clxiii (1871); *Gurney in Anderss. B. Damara-Ld.* p. 228 (1872); *Sharpe, P. Z. S.* 1873, p. 585; *Buckley, Ibis*, 1874, p. 366; *Bocage, Orn. Angola*, p. 139 (1877); *Fisch. & Reichen. J. f. O.* 1879, p. 341; *Hartl. Abhandl. nat. Ver. Brem.* vii. p. 113 (1881); *Shelley, Ibis*, 1882, p. 245; *Böhm, J. f. O.* 1883, p. 165; *Schalow, t. c.* p. 345; *Sharpe, ed. Layard's B. S. Afr.* pp. 148, 809 (1875–84); *id. Journ. Linn. Soc., Zool.* xviii. p. 432 (1884); *Shelley, P. Z. S.* 1888, p. 42; *Salvad. Ann. Mus. Civ. Genov.* 1888, p. 213.

Cuculus capensis (*nec P. L. S. Müll.*), *Cuv. Règne Anim.* i. p. 424 (1817).

Cuculus lineatus, *Swains. B. W. Afr.* ii. p. 178, pl. 18 (1837).

Cuculus ruficollis, *Heugl. Syst. Uebers.* p. 49 (1859).

Cuculus leptodetus, *Cab. & Heine, Mus. Hein.* iv. p. 34, note (1862); *Gray, Hand-l. B.* ii. p. 215, no. 8993; *Fischer, J. f. O.* 1885, p. 124; *Matschie, J. f. O.* 1887, p. 140.

Cuculus tenuirostris, *Verr. MS., fide Heugl. Orn. N.O.-Afr.* p. 781 (1871).

Cuculus aurantiirostris, *Sharpe, P. Z. S.* 1873, p. 584.

*Adult male.* Very similar to *C. canorus*, from which it differs in the colouring of the bill and in the amount of the white marks on the tail, which latter has a rather well marked dark subterminal bar; the bars on the breast generally a trifle narrower; outer tail-feather with about six complete white bars, indicated but not complete on the remainder of the feathers, and diminishing in extent towards the centre ones, where they are replaced by large spots, much larger than in *C. canorus*; basal third of the upper mandible and two-thirds of the lower mandible yellow: "iris and legs yellow" (*T. E. Buckley*). Total length 12·5 inches, culmen 1, wing 8·5, tail 6·8, tarsus 0·9.

*Adult female.* Probably differs in plumage from the male in the same manner as in *C. canorus*, as some specimens, apparently females,

have the lower throat and front of the breast very strongly shaded with rufous-buff.

*Immature.* Differs from the adult in somewhat the same manner as in *C. canorus*, but the bars on the upper parts are mostly entirely white.

*Hab.* South and Central Africa, throughout Eastern and North-eastern Africa to Upper Nubia, and occurring in Senegambia on the West Coast.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Lado, Equatorial Africa, April 10. | Emin Pasha [P.]. |
| *c.* Ad. sk. | Sassa, Niam-Niam Country. Sept. | F. Bohndorff [C.]. |
| *d.* Imm. sk. | River Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *e.* Ad.; *f.* Imm. sk. | Bathurst, R. Gambia. | Sharpe Coll. (Types of *C. aurantiirostris.*) |
| *g, h.* ♂ ad.; *i.* ♀ ad.; *k.* Imm. sk. | Otjimbinque, Damara-Land, March (*C. J. Andersson*). | Sharpe Coll. |
| *l.* ♀ imm. sk. | Ondonga, Ovampo-Land, Jan. 22 (*C. J. Andersson*). | Sharpe Coll. |
| *m.* ♂ ad. sk. | Meathly R., Bamangwato, Oct. 24 (*T. E. Buckley*). | Shelley Coll. |
| *n.* Ad. sk. | South Africa. | Earl of Derby [P.]. |

### Cuculus canorus and its allies.

The group to which the Common Cuckoo belongs contains three very closely allied species. *C. canorus* differs in its well-known note from the other two, but very slightly in the plumage. If we assign to it the following characters, we shall rarely fail to recognize it:—Length of wing not less than 8 inches; head in the young with some white feathers; back of the head and lower back not strongly barred in the rufous plumage. There is, however, a small race with narrower bars found in Marocco, and apparently throughout the whole Mediterraneo-Persic subregion, extending down the Red Sea to East Africa and the Persian Gulf. It has the true "cuckoo" note. The absence of white feathers on the head of the young bird is a character confined to *C. intermedius* and *C. poliocephalus*, while the barring of the hinder crown and lower back is always very distinct in *C. intermedius* and rarely occurs in *C. poliocephalus*, which by its short wing of only 6·5 inches may be easily recognized.

### 3. Cuculus canorus.

Cuculus canorus, *Linn. Syst. Nat.* i. p. 168 (1766); *Horsf. Trans. Linn. S.* xiii. p. 179 (1821); *Naum. Vög. Deutschl.* pls. 127, 128, 129 (1822–53); *Temm. Man. d'Orn.* i. p. 381 (1820); *Werner, Atlas, Zygod.* pls. 1, 2 (1828); *Sykes, P. Z. S.* 1832, p. 98; *Gould, B. Eur.* iii. p. 240

(1837); *Blyth, J. A. S. Beng.* xi. p. 901 (1842); *Rüpp. Syst. Uebers.* p. 96 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 71 (1849); *Kjærb. Orn. Dan.* pl. 10, & *Suppl.* pl. 4 (1851); *Schl. Vög. Nederl.* pls. 55, 56 (1854–58); *Hartl. Orn. W.-Afr.* p. 266 (1857); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 702 (1858); *Irby, Ibis*, 1861, p. 229; *Sundev. Svensk. Fogl.* pl. 21. figs. 4, 5 (1862); *Blakiston, Ibis*, 1862, p. 325; *Cab. & Heine, Mus. Hein.* iv. p. 32 (1862); *Jerd. B. Ind.* i. p. 322 (1862); *Swinh. Ibis*, 1863, p. 396; *Schl. Mus. Pays-Bas*, Cuculi, p. 4 (1864); *Bettoni, Ucc. Lomb.* ii. pl. 92 (1865–70); *Blyth, Ibis*, 1866, p. 359; *Tytler, Ibis*, 1868, p. 202; *Blanf. Geol. & Zool. Abyss.* p. 312 (1870); *Fritsch, Vög. Eur.* pl. iv. figs. 8, 9 (1870); *Gray, Hand-l. B.* ii. p. 215, no. 8985; *Swinh. P. Z. S.* 1871, p. 395; *Heugl. Orn. N.O.-Afr.* p. 779 (1871); *Shelley, B. Egypt*, p. 162 (1872); *Gurney in Anderss. B. Damara-Ld.* p. 227 (1872); *Jerd. Ibis*, 1872, p. 12; *Cab. J. f. O.* 1872, p. 235; *Gould, B. Gt. Brit.* iii. pls. 67, 68 (1873); *Hume, Nests & Eggs Ind. B.* p. 133 (1873); *Alston & Harvie-Brown, Ibis*, 1873, p. 59; *Brooke, t. c.* p. 236; *Cock & Marshall, Str. F.* i. p. 351 (1873); *Adams, t. c.* p. 373; *Stejneger, J. f. O.* 1873, p. 305; *Ussher, Ibis*, 1874, p. 52; *Durnford, t. c.* p. 395; *Ball, Str. F.* ii. p. 393 (1874); *Swinh. Ibis*, 1875, p. 125; *Danford, t. c.* p. 299; *Krüper, J. f. O.* 1875, p. 279; *Sachse, t. c.* p. 424; *Hume, Str. F.* iii. p. 78 (1875); *Brooks, t. c.* p. 232; *Bygrave Wharton, Ibis*, 1876, p. 26; *Seebohm & Harvie-Brown, Ibis*, 1876, p. 112; *Barratt, t. c.* p. 199; *Dresser, t. c.* p. 320; *Scully, Str. F.* iv. p. 134 (1876); *Hume, t. c.* p. 288; *Schalow, J. f. O.* 1876, p. 186; *Bocage, Orn. Angola*, p. 138 (1877); *David & Oust. Ois. Chine*, p. 64 (1877); *Ayres, Ibis*, 1877, p. 342; *Wardlaw Ramsay, t. c.* p. 458; *Hume, Str. F.* v. p. 27 (1877); *Schalow, J. f. O.* 1877, p. 196; *Dresser, B. Eur.* v. p. 199, pl. 299 (1878); *Danford, Ibis*, 1878, p. 7; *Blakiston & Pryer, t. c.* p. 227; *Seebohm, t. c.* p. 326; *Hume, Str. F.* vi. p. 156 (1878); *Davidson & Wenden, Str. F.* vii. p. 78; *Butler, Str. F.* vii. p. 181 (1878); *Ball, t. c.* p. 206; *Finsch, P. Z. S.* 1879, p. 12; *Hume, Str. F.* viii. p. 88 (1879); *Scully, t. c.* p. 253; *A. Müll. J. f. O.* 1879, p. 387; *Legge, B. Ceylon*, i. p. 221 (1880); *Wardlaw Ramsay, Ibis*, 1880, p. 50; *Biddulph, Str. F.* ix. p. 314 (1889); *Butler, t. c.* p. 387; *Barnes, t. c.* p. 453; *Biddulph, Ibis*, 1881, p. 49; *Scully, t. c.* p. 430; *Reid, Str. F.* x. p. 26 (1881); *Scully, t. c.* p. 102; *Davison, t. c.* p. 299; *Swinh. Ibis*, 1882, p. 103; *Seebohm, t. c.* pp. 209, 373; *Shelley, t. c.* p. 309; *Oates, Handb. B. Brit. Burmah*, ii. p. 103 (1883); *Seebohm, Ibis*, 1883, p. 22; *Severtz. t. c.* p. 71; *Irby, t. c.* p. 179; *Sharpe, ed. Layard's B. S. Afr.* pp. 147, 809 (1875–84); *Tristr. Faun. & Flor. Palestine*, p. 89 (1884); *Seebohm, Hist. Brit. B.* ii. p. 378, pl. 19 (1884); *Ayres, Ibis*, 1884, p. 223; *Saunders, t. c.* p. 380; *Marshall, t. c.* p. 410; *Fisch. Zeitschr. ges. Orn.* 1884, p. 365; *Swinh. & Barnes, Ibis*, 1885, p. 63; *Dixon, t. c.* p. 84; *Menzbier, t. c.* p. 257; *Guillemard, P. Z. S.* 1885, p. 551; *Fisch. J. f. O.* 1885, p. 124; *Deditius, t. c.* p. 203; *Dubois, Bull. Mus. Belg.* 1885, p. 181; *Schalow, Zeitschr. ges. Orn.* 1885, p. 16; *Booth, Rough Notes*, part xiii. pl.; *Sharpe, Ibis*, 1886, pp. 489, 498; *Hartert, J. f. O.* 1886, p. 597; *Styan, Ibis*, 1887, p. 230; *Tait, t. c.* p. 306; *Bocage, Jorn. Lisb.* 1887, p. 5; *Leverk. J. f. O.* 1887, pp. 79, 191; *W. Mull, t. c.* p. 169; *Schalow, t. c.* p. 188; *Hartert, t. c.* p. 253; *Eckstein, t. c.* p. 286; *St. John, Ibis*, 1889, p. 159; *A. Müll. t. c.* p. 219; *Lilford, t. c.* p. 330; *Oates, t. c.* p. 355; *Clarke, t. c.* p. 549; *Oates, ed. Hume's Nests*

*& Eggs*, ii. p. 379 (1890); *Seeb. Birds Japan. Emp.* p. 169 (1890).

Le Coucou, *Montbeill. Hist. Nat. Ois.* vi. p. 305 (1779); *Daubent. Pl. Enl.* vi. pl. 811.

Coucou du Cap de Bonne Espérance, *Montb. Pl. Enl.* vi. pl. 390.

Cuculus capensis, *P. L. S. Müll. Syst. Nat. Suppl.* p. 90 (1776); *Gm. Syst. Nat.* i. p. 410 (1788); *Steph. Gen. Z.* ix. p. 85 (1815); *Cab. & Heine, Mus. Hein.* iv. p. 42 (pt., 1862); *Cass. Proc. Philad. Ac.* 1864, p. 243.

Cuculus hepaticus, *Sparrm. Mus. Carls.* iii. p. 55 (1789); *Lath. Ind. Orn.* i. p. 215 (1790); *Sunder. Krit. om Sparrm.* p. 10 (1857).

Cuculus rufus, *Bechst. Nat. Hist. Deutschl.* ii. p. 1142 (1792); *id. Orn. Taschenb.* i. p. 84 (1802).

Cuculus tristis, *Hermann, Observ. Zool.* p. 131 (1804).

Coucou vulgaire d'Europe, *Levaill. Ois. d'Afr.* v. p. 26, pls. 202, 203 (1806).

Cuculus borealis, *Pall. Zoogr. Rosso-As.* i. p. 442 (1811).

Cuculus cinereus (*nec Vieill.*), *Brehm, Vög. Deutschl.* p. 153 (1831).

? Cuculus tenuirostris, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 235, note (1839-44); *Bp. Consp. Av.* i. p. 103 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 39 (1862).

Cuculus longipennis, *Brehm, Naumannia*, 1855, p. 271.

Cuculus striatus (*nec Drap.*), *Swinh. Ibis*, 1861, p. 259.

Cuculus telephonus, *Heine, J. f. O.* 1863, p. 352.

Cuculus libanoticus, *Tristr. P. Z. S.* 1864, p. 432.

Cuculus canorus telephonus, *Stejn. Bull. U.S. Nat. Mus.* no. 29, p. 224 (1885); *Taczanowski, P. Z. S.* 1887, p. 607, 1888, p. 466.

Cuculus canorus borealis, *Stejn. Bull. U.S. Nat. Mus.* no. 29, p. 225 (1885).

Cuculus peninsulæ, *Stejn. t. c.* p. 227.

*Adult male.* General colour above leaden grey, slightly shaded with olive on the mantle and wings; quills dark brown, more or less notched with white on the inner webs; lateral upper tail-coverts narrowly edged and partially barred with white; tail slaty black, with white ends to all the feathers and with about seven double white spots along their shafts and white notches on their inner webs, never forming bars across the feathers; sides of the head and neck, chin and throat grey, slightly paler than the crown; remainder of the underparts white, shaded with buff on the abdomen and under tail-coverts, and very regularly barred with dusky black; axillaries and under wing-coverts barred like the breast, with a portion near the bend of the wing and most of the greater series leaden grey; quills beneath dusky brown, with white bars on their inner webs, broadest and most strongly marked towards the base of the feathers; bill black, yellowish at the base and edges; iris and legs yellow. Total length 14 inches, culmen 0·9, wing 8·9, tail 7, tarsus 0·8.

*Adult female.* Differs only in plumage from the male in having the base of the throat shaded with rufous. Total length 12·6 inches, culmen 0·85, wing 8·3, tail 6·8, tarsus 0·75.

*Nestling.* General plumage above dark brown, partially barred with rufous, with a narrow white terminal margin to each of the feathers, broadest on the wings and tail; crown and nape much

mottled with white; sides of the head, chin, and throat blackish brown and white in broad bars of nearly even breadth; remainder of the under surface of the body white, with blackish-brown bars not half the width of the intervening white spaces. Total length 6·7 inches, wing 5.

*Young nearly full-grown.* Above grey, passing into brownish black on the head, wings, and tail; crown and nape mottled with white feathers: feathers of the head, neck, wings, and tail strongly barred with rufous; remainder of the back much less distinctly barred, each feather being tipped with white next to a subterminal dark bar; tail with waved rufous bars passing into white near the shafts of the feathers and with white ends; general colour of the underparts buffish white, with blackish-brown bars, slightly broader on the chin and throat than on the breast. Total length 11·7 inches, wing 7·25.

*Hepatic phase.* General colour of the upper parts cinnamon, barred on the head, mantle, and wings with dusky black; lower back and upper tail-coverts with a few black spots next to their shafts: outer tail-coverts with partial traces of dark bars; tail partially barred with black and marked with white near the shafts, the tips, and some of the edges of the feathers, and with a broad subterminal black band; underparts buffish white, rather darker on the throat, and all the feathers barred with dusky black. Total length 11·7 inches, culmen 0·85, wing 8·5, tail 6·7, tarsus 0·75.

*Hab.* Nearly the whole of the Old World.

| | | |
|---|---|---|
| *a.* Juv. sk. | Whitehill, Midlothian (*R. G. W. R.*). | Tweeddale Coll. |
| *b.* Juv. st. | Leicestershire. | Theodore Walker, Esq. [P.]. |
| *c.* Juv. sk. | Cambridgeshire. | Seebohm Coll. |
| *d.* Imm. st. | Cambridgeshire. | Mr. Baker. |
| *e.* Juv. hepat. sk. | Aylesbury, Bucks. | Forbes Coll. |
| *f.* ♂ ad.: *g–k.* Juv. st. | Cookham, May, July (*W. Briggs*). | R. B. Sharpe, Esq. [P.]. |
| *l.* ♀ ad. sk. | West Drayton, Middlesex, June. | R. B. Sharpe, Esq. [P.]. |
| *m.* ♀ ad. sk. | Highgate, May 30 (*R. B. S.*). | Tweeddale Coll. |
| *n.* [♀ ad.] sk. | Kingsbury, June 2. | J. E. Harting, Esq. [P.]. |
| *o.* Juv. sk. | Brentford, Sept. 9. | J. R. Cunnington, Esq. [P.]. |
| *p.* Juv. st. | Clapham, August. | J. E. Harting, Esq. [P.]. |
| *q.* ♂ juv. sk. | Wandsworth, Oct. 14. | Alex. Brooke, Esq. [P.]. |
| *r.* Juv. sk. | Romney, Kent, Sept. | R. B. Sharpe, Esq. [P.]. |
| *s.* ♂ ad. sk. | Brighton, May 2. | Gould Coll. |
| *t.* Juv. sk. | Pagham, Sussex, July. | R. B. Sharpe, Esq. [P.]. |
| *u–w.* Ad.: *x–a'.* Juv. sk. | Avington, Hants, May, July, Aug. (*G. E. S.*). | Shelley Coll. |

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|---|---|---|
| *b'*. ♀ ad. sk. | Christchurch, Hants. | Baron A. von Hügel. |
| *c'*, *d'*. Ad. et juv. sk. | Devonshire. | Montagu Coll. |
| *e'*. ♀ juv. hepat. sk. | Avetongifford, Devonshire, Aug. 1. | R. P. Nicholls, Esq. [P.]. |
| *f'*. Var. alb. sk. | Cornwall. | Sir Joseph Banks, [P.]. |
| *g'*. Ad. st. | Europe. | General Hardwicke. |
| *h'*. ♀ ad. sk. | Norway, July. | Salvin-Godman Coll. |
| *i'*, *k'*. ♂ ad. sk. | Skåne, Sweden, June (*W. Meves*). | R. B. Sharpe, Esq. [P.]. |
| *l'*. ♂ ad. sk. | Wermland, July 7 (*W. M.*). | R. B. Sharpe, Esq. [P.]. |
| *m'*. ♂ ad. sk. | Holland. | Salvin-Godman Coll. |
| *n'*. Pull. sk. | Westphalia. | Seebohm Coll. |
| *o'*. Juv. sk. | Nice. | Tweeddale Coll. |
| *p'*. ♀ ad. sk. | Seville, Spain, Aug. (*Howard Saunders*). | Tweeddale Coll. |
| *q'*, *r'*. Ad.; *s'*. Imm. sk. | Tangiers. | Seebohm Coll. |
| *t'*. ♂ ad. sk. | Waregra, Tunis, March (*O. Salvin*). | Salvin-Godman Coll. |
| *u'*. Ad. sk. | Athens. | Consul Merlin. |
| *v'*. ♀ juv. sk. | Turkey, Sept. (*T. Robson*). | R. B. Sharpe, Esq. [P.]. |
| *w'*. ♂ juv. sk. | Smyrna, June 28 (*T. Krüper*). | Seebohm Coll. |
| *x'*. Ad. st. | Erzeroum (*Dickson & Ross*). | Zoological Society. |
| *y'*. ♀ jr. hepat. sk. | Erzeroum, Sept. (*Dickson & Ross*). | Gould Coll. |
| *z'*. ♀ ad. st. | Merom, Palestine. | Canon Tristram [C.]. |
| *a''*, *b''*. Ad.; *c''*. Juv. hepat. sk. | Egypt, April. | Shelley Coll. |
| *d''*. ♂ ad. sk. | Anseba Valley, Bogos, Aug. 4, 1868. | W. T. Blanford, Esq. [C.]. |
| *e''*. Ad. sk. | Ailat, Bogos (*Esler*). | Shelley Coll. |
| *f''*, *g''*. ♂ ad. sk. | Massowah (*W. Jesse*). | Tweeddale Coll. |
| *h''*. Ad. sk. | Abyssinia (*Verreaux*). | Sharpe Coll. |
| *i''*. Imm. sk. | Fantee. | A. Swanzy, Esq. [P.]. |
| *k''*, *l''*. Imm. sk. | Connor's Hill, Fantee, Nov. 2 (*H. T. Ussher*). | Sharpe Coll. |
| *m''*, *n''*. ♂ ad.; *o''*. ♀ ad. sk. | Otjimbinque, Damara-Land, Feb.–Apr. (*C. J. Andersson*). | Sharpe Coll. |
| *p''*. ♀ ad. sk. | Ondonga, Ovampo-Land, Dec. 22 (*C. J. A.*). | Sharpe Coll. |
| *q''*. Juv. hepat. sk. | S.E. Africa. | John Rocke, Esq. [P.]. |
| *r''*. ♀ imm. sk. | Potchefstroom, Jan. (*T. Ayres*). | Shelley Coll. |
| *s''*, *t''*. Imm. sk. | Transvaal, Dec., Jan. | F. A. Barratt, Esq. [P.]. |
| *u''*. Ad. sk. | Zambesi. | Dr. Bradshaw [C]. |
| *v''*. Ad. sk. | Mamboio, E. Africa (*Sir J. Kirk*). | Shelley Coll. |
| *w''*. Ad. sk. | Jeddah, Arabia (*Zohrab*). | Shelley Coll. |
| *x''*. ♂ juv. sk. | Mesopotamia (*Comm. Jones*). | India Museum. |
| *y''*, *z''*. ♂ ad. sk. | Bushire, Persian Gulf, April 16, 1885. | A. J. V. Palmer, Esq. [P.]. |

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| *a*³. Juv. sk. | Fao, Persian Gulf. | W. D. Cumming, Esq. [P.]. |
| *b*³. ♂ ad. sk. | Mount Mashish, Persia, May 21. | W. T. Blanford, Esq. [C.]. |
| *c*³. Juv. sk. | Shiraz, July. | Sir O. St. John [C.]. |
| *d*³, *e*³. Imm. sk. | Teheran. | C. Darwin, Esq. [P.]. |
| *f*³. ♀ juv. sk. | Nukuss, River Oxus, Aug. | Severtzoff Coll. |
| *g*³. ♂ imm. sk. | Uzgent, Oct. | Severtzoff Coll. |
| *h*³. ♂ ad. sk. | Karakol, July. | Severtzoff Coll. |
| *i*³. ♀ ad. sk. | Vernoi, July. | Severtzoff Coll. |
| *k*³. ♂ ad. sk. | Ala Kul, Turkestan, May (*Dr. O. Finsch*). | Geogr. Soc. Bremen [P.]. |
| *l*³. Ad. sk. | Tokulko, Baluchistan, May (*O. T. Duke*). | Hume Coll. |
| *m*³. Juv. hepat. sk. | Shawlkote, June (*O. T. Duke*). | Hume Coll. |
| *n*³. Ad.; *o*³. Juv. sk. | Afghanistan (*Griffith*). | India Museum. |
| *p*³. Ad. sk. | Jugdulluk (*Griffith*). | India Museum. |
| *q*³. ♂ juv. hepat. sk. | Candahar, June 23 (*Sir O. St. John*). | Hume Coll. |
| *r*³, *s*³. Ad.; *t*³. ♀ juv. hepat. sk. | Quetta, May 1881. | Colonel Swinhoe [P.]. |
| *u*³. ♀ juv. sk. | Karachi, Sept. 30 (*E. A. Butler*). | Hume Coll. |
| *v*³, *w*³. ♀ ad. sk. | Deesa, Aug., Sept. (*E. A. Butler*). | Hume Coll. |
| *x*³. Ad. sk. | Mount Aboo. | Colonel Butler [C.]. |
| *y*³. ♂ ad. sk. | Sambhur, May (*R. M. Adam*). | Hume Coll. |
| *z*³. ♂ ad. sk. | Delhi, April 18 (*C. T. Bingham*). | Hume Coll. |
| *a*⁴. ♂ ad.; *b*⁴. Juv. sk. | Umbala, Aug. | Hume Coll. |
| *c*⁴. Ad. sk. | Sirsa, Punjab. | Hume Coll. |
| *d*⁴. ♀ ad. sk. | Sharpoor, Kangra Valley, May 16. | Hume Coll. |
| *e*⁴, *f*⁴. Ad. sk. | Cashmere (*Dr. Bellew*). | India Museum. |
| *g*⁴, *h*⁴. Ad. sk. | Cashmere, Aug. | Hume Coll. |
| *i*⁴, *k*⁴. ♂ ad.; *l*⁴. juv. sk. | Gilgit, May, Aug. | Colonel Biddulph [C.]. |
| *m*⁴. Ad.; *n*⁴. ♂ juv. sk. | Murree. | Colonel Biddulph [C.]. |
| *o*⁴. Juv. sk. | Kotegurh, April. | Hume Coll. |
| *p*⁴–*u*⁴. ♂ ad. et juv.; *v*⁴–*b*⁵. ♀ ad. et juv. sk. | Simla, May, July, Aug., Sept. | Hume Coll. |
| *c*⁵, *d*⁵. ♂ ad. et juv.; *e*⁵, *f*⁵. ♀ ad. sk. | Simla, June, July, Sept. | Tweeddale Coll |
| *g*⁵. ♂ ad. sk. | Simla, June. | Col. J. Biddulph [C.]. |
| *h*⁵. Ad.; *i*⁵–*l*⁵. Imm. sk. | N.W. Himalayas. | Pinwill Coll. |
| *m*⁵, *n*⁵. Ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *o*⁵. Ad. sk. | Kalsi, Dhoon, April 26 (*G. F. L. Marshall*). | Hume Coll. |
| *p*⁵–*s*⁵. Ad.; *t*⁵. Juv. sk. | Kumaun (*Strachey*). | India Museum. |

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| $u^5$. ♂ ad. sk. | Almorah, May 15. | Hume Coll. |
| $v^5$, $w^5$. Ad.; $x^5$, $y^5$. Imm. sk. | Etawah, Aug., Sept. | Hume Coll. |
| $z^5$, $a^6$. ♂ ♀ ad. sk. | Futtehgurh Dist., May, Aug. (*A. Anderson*). | Seebohm Coll. |
| $b^6$. Juv. sk. | Gondah, Oudh (*S. Pinwill*). | Tweeddale Coll. |
| $c^6$. ♂ imm. sk. | Saugor, Sept. 11. | Hume Coll. |
| $d^6$, $e^6$. ♂ ad.; $f^6$. ♀ imm. sk. | Nepal Valley, Aug., Sept. (*J. Scully*). | Hume Coll. |
| $g^6$. Ad. st. | Nepal. | Hodgson Coll. |
| $h^6$–$k^6$. Ad.; $l^6$–$r^6$. Imm. sk. | Nepal. | Hodgson Coll. |
| $s^6$. Ad. sk. | Thibet. | Earl Gifford [P.]. |
| $t^6$. Ad.; $u^6$. Juv. sk. | Native Sikhim, March, Oct. (*L. Mandelli*). | Hume Coll. |
| $v^6$–$z^6$. Ad.; $a^7$–$k^7$. Imm. sk. | Sikhim, May, Sept., Oct. (*L. Mandelli*). | Hume Coll. |
| $l^7$. Ad. sk. | Darjiling, April. | Hume Coll. |
| $m^7$. Imm. sk. | Darjiling (*Pearson*). | India Museum. |
| $n^7$. Ad. sk. | Bhutan (*Pemberton*). | India Museum. |
| $o^7$. Ad. sk. | Khasia Hills (*Jerdon*). | Gould Coll. |
| $p^7$. Ad. sk. | Assam. | Seebohm Coll. |
| $q^7$, $r^7$. ♂ ♀ ad.; $s^7$. ♂ juv. sk. | Shillong, July, May (*A. W. Chennell*). | Tweeddale Coll. |
| $t^7$–$z^7$. ♂ ad. et imm.; $a^8$–$e^8$. ♀ ad. et imm. sk. | Shillong, July, Aug., Oct. (*J. Cockburn*). | Hume Coll. |
| $f^8$. ♂ imm. sk. | Dibrughur, Aug. (*J. R. Cripps*). | Hume Coll. |
| $g^8$, $h^8$. Ad. sk. | Cachar. | Hume Coll. |
| $i^8$, $k^8$. ♂ ad. sk. | Manipur, April, May (*A. O. H.*). | Hume Coll. |
| $l^8$. Ad. sk. | Dacca, March. | Hume Coll. |
| $m^8$. ♂ imm. sk. | Barrackpur, Sept. (*R. C. Beavan*). | Tweeddale Coll. |
| $n^8$, $o^8$. Imm. sk. | Raipur. | Hume Coll. |
| $p^8$. Ad. sk. | Mhow (*R. Blackburn*). | Seebohm Coll. |
| $q^8$. ♀ ad. sk. | Belgaum, Oct. 7 (*E. A. Butler*). | Hume Coll. |
| $r^8$. Juv. sk. | Malabar. | Seebohm Coll. |
| $s^8$. ♀ imm. sk. | Mysore, Nov. | W. Davison, Esq. [P.]. |
| $t^8$. ♀ imm. sk. | Kotagherry, Oct. 26 (*Miss Cockburn*). | Hume Coll. |
| $u^8$. Juv. sk. | Travancore, Feb. | F. Bourdillon, Esq. [C.]. |
| $v^8$, $w^8$. Ad. sk. | Tippera. | Hume Coll. |
| $x^8$. Ad. sk. | Burma. | Seebohm Coll. |
| $y^8$, $z^8$. ♂ ad. sk. | Karen-nee, March (*R. G. W. R.*). | Tweeddale Coll. |
| $a^9$–$c^9$. ♂ ad. et imm.; $d^9$–$f^9$. ♀ ad. et imm. sk. | Pegu, Feb., Sept., Oct., Nov. | Oates Coll. |
| $g^9$. ♀ imm. sk. | S. Andamans, Nov. 16. | Hume Coll. |
| $h^9$, $i^9$. ♂ ♀ imm. sk. | S. Andamans, Nov. (*R. G W. R.*). | Tweeddale Coll. |
| $k^9$. Imm. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |

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| $l^9$. Ad. sk. | Singapore. | Gould Coll. |
| $m^9$. Ad. sk. | Java (*Horsfield*). | India Museum. |
| $n^9$. Ad. sk. | Dahat Island, Dec. 28. | A. H. Everett, Esq. [C.]. |
| $o^9$. Ad. sk. | Kina Benua River, Labuan, March. | Governor Ussher [C.]. |
| $p^9$. Ad. sk. | Philippines. | Tweeddale Coll. |
| $q^9$. Ad. sk. | Menado, Celebes. | Tweeddale Coll. |
| $r^9$. ♂ ad. sk. | Batchian. | Wallace Coll. |
| $s$. ♂ imm. sk. | Amboyna (*A. R. Wallace*). | Tweeddale Coll. |
| $t^9, u^9$. ♂ ad. sk. | Timor. | Wallace Coll. |
| $v^9, w^9$. Imm. sk. | Morty Island. | Wallace Coll. |
| $x^9$. Juv. sk. | Port Moresby, New Guinea. | Mr. A. Goldie [C.]. |
| $y^9$. Ad. sk. | Port Denison, Dec. | Forbes Coll. |
| $z^9$. Ad. sk. | Cape York. | Salvin-Godman Coll. |
| $a^{10}$. Ad. sk. | Japan. | Seebohm Coll. |
| $b^{10}$. ♂ ad. sk. | Yezo. | Seebohm Coll. |
| $c^{10}$. ♀ imm. sk. | Hakodadi, Sept. (*H. Whitely*). | Tweeddale Coll. |
| $d^{10}$. Imm. sk. | Yokohama (*H. Pryer*). | Seebohm Coll. |
| $e^{10}$. Ad. sk. | Yeddo. | Tweeddale Coll. |
| $f^{10}$. ♂ ad. sk. | Teintsin (*R. Swinhoe*). | Seebohm Coll. |
| $g^{10}$. Juv. sk. | China. | Tweeddale Coll. |
| $h^{10}, i^{10}$. Ad. sk. | Ichang, N. China. | Mr. Pratt [C.]. |
| $k^{10}, l^{10}$. ♂ ♀ ad. sk. | Pekin, July, Sept. (*R. Swinhoe*). | Seebohm Coll. |
| $m^{10}$. Imm. sk. | S. Manchuria. | Dr. James [P.]. |
| $n^{10}$. Juv. sk. | Shanghai (*R. Swinhoe*). | Seebohm Coll. |
| $o^{10}$. Imm. sk. | Foochow, Oct. (*R. Swinhoe*). | Seebohm Coll. |
| $p^{10}, q^{10}$. Skeleton. | England. | Purchased. |
| $r^{10}$. Skeleton; $s^{10}, t^{10}$. Skulls. | South Germany. | Dr. A. Günther. |
| $u^{10}$. Sternum. | England. | G. Ingall, Esq. [P.]. |
| $v^{10}$. Sternum. | Europe. | M. Lefevre. |
| $w^{10}$. Sternum; $x^{10}$. Bones of trunk. | Nepal. | Hodgson Coll. |

### 4. Cuculus intermedius.

Cuculus intermedius, *Vahl, Skriv. af Natuur. Selsk.* iv. p. 58 (1797); *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 381 (1890); *Seeb. Birds Japan. Emp.* p. 169 (1890).

Cuculus striatus, *Drap. Dict. Class. Hist. Nat.* p. 570 (1823); *id. Dict. Class. Sc.* iii. p. 144 (1838); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 703, pt. (1856–58); *Swinh. Ibis*, 1861, pp. 259, 340; *Cab. & Heine, Mus. Hein.* iv. p. 37 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 7 (1864); *Blyth, Ibis*, 1866, p. 359; *Swinh. P. Z. S.* 1871, p. 395; *Hume, Str. F.* i. p. 422 (1873); *id. Nests & Eggs Ind. B.* p. 134 (1873); *id. Str. F.* ii. pp. 190, 472; *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875); *Hume, Str. F.* vi. p. 156 (1878), viii. pp. 53, 88 (1879); *Scully, t. c.* p. 254; *Davison, t. c.* p. 359; *A. Müll. J. f. O.* 1882, p. 406; *Oates, Handb. B. Brit. Burm.* ii. p. 105 (1883); *id. Ibis*, 1889, p. 357.

Cuculus himalayanus, *Vig. P. Z. S.* 1831, p. 172; *Blyth, Cat. B. Mus. As. Soc.* p. 71 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 704 (1858); *Jerd. B. Ind.* i. p. 323 (1862); *Tytler, Ibis*, 1868, p. 202; *Jerd. Ibis*, 1872, p. 12; *Seebohm, Ibis*, 1878, p. 326; *Sharpe, P. Z. S.* 1879, p. 327; *Biddulph, Str. F* ix. p. 314 (1880);

*id. Ibis*, 1881, p. 50; *Scully, t. c.* p. 431; *id. Str. F.* x. p. 103 (1881); *Seebohm, Hist. Brit. B.* ii. p. 379 (1884); *id. Ibis*, 1884, p. 36; *Marshall, t. c.* p. 410.

Cuculus canoroides, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 235, note (1839–44); *Bp. Consp. Av.* i. p. 103 (1850); *Gray, P. Z. S.* 1860, p. 359; *Wallace, P. Z. S.* 1863, p. 484; *Finsch, Neu-Guinea*, p. 159 (1865); *Gould, B. Australia*, p. 614 (1865); *Blyth, Ibis*, 1865, p. 31; *Gray, Hand-l. B.* ii. p. 216, no. 9006 (1870); *Blyth, Cat. B. Burmah*, p. 79 (1875); *Wardlaw Ramsay, P. Z. S.* 1875, p. 600; *Salvad. Ann. Mus. Civ. Genov.* x. p. 124 (1877), xiii. p. 457 (1878); *D'Albertis & Salvad. Ann. Mus. Civ. Genov.* xiv. p. 42 (1879); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iv. p. 96 (1879); *Salvad. Orn. Papuasia*, i. p. 328 (1880), *App. op. cit.* p. 48 (1888); *Blas. u. Nehrk. Verh. Gesellsch. Wien*, 1882, p. 417; *Finsch, Vög. der Südsee*, p. 16 (1884); *Pleske, Bull. Act. Pétersb.* xxix. p. 524 (1884); *Guillemard, P. Z. S.* 1885, pp. 565, 624; *Blasius, Ornis*, v. p. 306; *Whitehead, Ibis*, 1890, p. 46.

Cuculus saturatus, *Horsf. J. A. S. Beng.* xii. p. 942 (1843); *Blyth, J. A. S. Beng.* xv. p. 18 (1846); *Cab. & Heine, Mus. Hein.* iv. p. 37, note (1862).

Cuculus optatus, *Gould, P. Z. S.* 1845, p. 18; *Gray, Gen. B.* ii. p. 463 (1847); *Gould, B. Australia*, iv. pl. 48; *id. Introd. B. Australia*, p. 67 (1848); *Rchb. Vög. Neuholl.* ii. pp. 113, 309 (1851); *Bp. Consp. Av.* i. p. 103 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 34, note (1862).

Cuculus canorus indicus, *Blyth, J. A. S. Beng.* xv. 1846, p. 19; *Stejn. Bull. U.S. Nat. Mus.* no. 29, p. 228 (1885).

Nicoclarius optatus, *Bp. Consp. Vol. Zygod.* p. 6, sp. 168 (1854); *Gray, Hand-l. B.* ii. p. 216, no. 9007 (1870).

Nicoclarius canoroides, *Bp. Consp. Vol. Zygod.* p. 6, sp. 169 (1854); *Gray, Hand-l. B.* ii. p. 216 (1870).

Cuculus horsfieldi, *Moore, Cat. B. Mus. E.I. Co.* ii. p. 703 (1858).

Cuculus fucatus, *Peale, U.S. Expl. Exped.* p. 136, pl. 37. fig. 2 (1848); *Cab. & Heine, Mus. Hein.* iv. p. 40, note (1862); *Gray, Hand-l. B.* ii. p. 216, no. 8997 (1870).

Cuculus tenuirostris (*nec Less.*), *Cass. U.S. Expl. Exped.* 1858, p. 244, pl. 21. fig. 1.

Cuculus indicus, *Cab. & Heine, Mus. Hein.* iv. p. 34 (1862); *Tacz. J. f. O.* 1876, p. 200; *id. Bull. Soc. Z. France*, 1882, p. 395; *Dyb. op. cit.* 1883, p. 368; *Lorenz, Beitr. Orn. Kauk.* p. 43 (1887).

Cuculus cantor, *Ill., fide Cab. & Heine, Mus. Hein.* iv. p. 34 (1862).

Cuculus canorinus, *Cab. & Heine, Mus. Hein.* iv. p. 35 (1862); *Gieb. Thes. Orn.* i. p. 834 (1872); *Taczan. J. f. O.* 1873, pp. 96, 118; *Salvad. Ucc. Borneo*, p. 67 (1874); *Swinh. Ibis*, 1875, p. 451; *Taczan. J. f. O.* 1875, p. 254; *Stejn. Pr. U.S. Nat. Mus.* vi. p. 182 (1883).

Cuculus swinhoii, *Cab. & Heine, Mus. Hein.* iv. p. 37, note (1862).

Cuculus kelungensis, *Swinh. Ibis*, 1863, p. 394; *Gray, Hand-l. B.* ii. p. 216, no. 9000 (1870).

Cuculus monosyllabicus, *Swinh. Ibis*, 1865, p. 545; *Gray, Hand-l. B.* ii. p. 216, no. 8998 (1870).

*Adult male.* Very similar to *C. canorus*, but smaller, with the bill slightly shorter and stouter. The plumage differs in the upper parts being of a deeper and more blue-grey, the breast and under tail-coverts more washed with buff, and the bars on the body black, broader and more sharply defined than in *C. canorus*: "bill above

blackish, below greenish: gape and mouth inside deep orange; eyelids bright yellow: irides stone-colour: legs dull yellow, claws pale" (*J. R. Cripps*). Total length 12·8 inches, culmen 0·9, wing 7·4, tail 6·3, tarsus 0·7.

*Adult female.* Differs only in plumage from the male in having the base of the throat shaded with buffish rufous, as is the case in *C. canorus*. Total length 11·5 inches, culmen 0·7, wing 7·4, tail 6, tarsus 0·7.

*Nestling.* General plumage above blackish brown, with narrow terminal white margins to the feathers, which margins are broadest on the wings and tail; the white nuchal patch so characteristic of *C. canorus* is indicated by three white feathers; a few rufous partial bars on the wings and tail; chin and throat blackish brown, the feathers of the latter with very narrow whitish terminal edges; remainder of the under surface of the body blackish brown and white in broad bars of even width. Total length 5 inches, wing 3·7.

*Young, nearly full-grown.* Differs from *C. canorus* at this stage in being much blacker, in generally having no white feathers on the nape, and in the greater breadth of the black bars on the throat and breast, which are seldom narrower than the white space between them.

*Rufous phase.* Compared with the rufous phase of *C. canorus*, it is darker, the dark bars being broader and blacker: lower back and upper tail-coverts barred with black like the crown: tail with very distinct black bars forming angles at the shafts of the feathers; under surface of the body similarly coloured, but much more broadly barred with black than in *C. canorus*. Total length 11·1 inches, culmen 0·85, wing 7, tail 6·1, tarsus 0·7.

*Hab.* From Siberia and Japan south throughout China and the Indian peninsula, through the Malay Archipelago to New Guinea, New Britain, and Australia.

| | | |
|---|---|---|
| *a.* ♀ juv. sk. | Jodhpur, Rajpootana. | Hume Coll. |
| *b.* ♂ ad. sk. | Sulapur, May 18 (*J. Scully*). | Seebohm Coll. |
| *c, d.* ♀ ad. sk. | Ruttun Pir Mountain, Cashmere, June 17. | Hume Coll. |
| *e.* Juv. sk. | Kotegurh, April. | Hume Coll. |
| *f.* ♀ juv. sk. | Simla, July (*R. C. Beavan*). | Tweeddale Coll. |
| *g.* ♀ imm. sk. | Kalsi (*G. F. L. Marshall*). | Hume Coll. |
| *h.* ♂ ad.; *i, k.* Juv. sk. | Naini Tal, June. | Hume Coll. |
| *l.* ♂ ad. sk. | Futtehgurh Dist., May (*A. Anderson*). | Seebohm Coll. |
| *m.* ♂ ad.; *n.* ♀ juv. sk. | Nepal Valley, July, Sept. (*J. Scully*). | Hume Coll. |
| *o–t.* Ad.; *u–y.* Juv. sk. | Nepal. | Hodgson Coll. |
| *z, a'.* Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. (Types of *C. saturatus*.) |
| *b'.* Ad.; *c', d'.* *e'.* Imm. sk. | Native Sikhim, April, June, July, Sept. (*L. Mandelli*). | Hume Coll. |

| | | |
|---|---|---|
| *f'–k'*. Ad. et juv. sk. | Sikhim, Sept., Nov. (*L. Mandelli*). | Hume Coll. |
| *l'–s'*. Ad. et juv. sk. | Darjeeling. | Hume Coll. |
| *t', u'*. Ad. sk. | Dollah, Assam, April (*J. Cockburn*). | Hume Coll. |
| *v'*. ♂ juv. sk. | Shillong, Sept. 8 (*J. Cockburn*). | Hume Coll. |
| *w'–z'*. ♂ ad. sk. | Dibrughur, March, April (*J. R. Cripps*). | Hume Coll. |
| *a'', b''*. ♂ ♀ ad. sk. | Munipur, April, May (*A. O. H.*). | Hume Coll. |
| *c''*. ♀ ad. sk. | Pegu, Oct. | Oates Coll. |
| *d''*. ♀ juv. sk. | Kanee, Houngthraw R., Jan. 9 (*W. Davison*). | Hume Coll. |
| *e'', f'', g''*. Ad. sk. | S. Andamans, Dec., Jan. (*R. G. W. R.*). | Tweeddale Coll. |
| *h''*. ♂ ad. sk. | Port Blair, Feb. | Hume Coll. |
| *i''*. ♂ ad.; *k''*. ♀ juv. sk. | Kondul Island, Nicobars, March. | Hume Coll. |
| *l''*. Ad. sk. | Sumatra (*C. Bock*). | Tweeddale Coll. |
| *m''*. ♂ ad.; *n''*. juv. sk. | Java. | Seebohm Coll. |
| *o''*. Ad. sk. | Manila, Dec. | Tweeddale Coll. |
| *p''*. Imm. sk. | Pelew Islands. | Purchased. |
| *q'', r''*. Ad.; *s''*. Juv. sk. | Menado, N. Celebes. | Tweeddale Coll. |
| *t''*. Juv. sk. | Makassar. | Wallace Coll. |
| *u''–w''*. Ad. sk. | Batchian (*A. R. Wallace*). | Tweeddale Coll. |
| *x''*. Ad. st. | Batchian. | Wallace Coll. |
| *y'', z'', a*$^3$. Imm. sk. | Morty Island (*A. R. Wallace*). | Tweeddale Coll. |
| *b*$^3$. Juv. sk. | Flores (*A. R. Wallace*). | Seebohm Coll. |
| *c*$^3$*–g*$^3$. Ad. sk. | Timor. | Wallace Coll. |
| *h*$^3$. Juv. sk. | Astrolabe Mts., New Guinea. | A. Goldie, Esq. [C.]. |
| *i*$^3$. Ad. sk. | Port Essington. | Seebohm Coll. |
| *k*$^3$, *l*$^3$. Ad. et imm. sk. | Cape York (*Cockerell & Thorpe*). | Salvin-Godman Coll. |
| *m*$^3$. Ad. sk. | Japan. | Seebohm Coll. |
| *n*$^3$. Imm. sk. | Taiwan, Formosa (*R. Swinhoe*). | Seebohm Coll. |
| *o*$^3$*–w*$^3$. Ad. et juv. sk. | Formosa, April, May (*R. Swinhoe*). | Seebohm Coll. |
| *x*$^3$. ♀ ad. sk. | Takow, Formosa, May 21 (*R. Swinhoe*). | Seebohm Coll. (Type of *C. monosyllabicus*.) |
| *y*$^3$. Ad. sk. | Fokien. | Seebohm Coll. |
| *z*$^3$. ♂ imm.; *a*$^4$. ♀ ad. sk. | Chefoo, May, June (*R. Swinhoe*). | Seebohm Coll. |
| *b*$^4$*–k*$^4$. Ad. et juv. sk. | Amoy, April, May, Oct. (*R. Swinhoe*). | Seebohm Coll. |

### 5. Cuculus poliocephalus.

Cuculus poliocephalus, *Lath. Ind. Orn.* i. p. 214 (1790); *Gould, Cent. B. Himalayas*, pl. 54 (1832); *Blyth, J. A. S. Beng.* xi. p. 904 (1842); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 119 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 71 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 704 (1856–58); *Cab. & Heine, Mus. Hein.* iv. p. 38, note (1862); *Jerd. B. Ind.* i. p. 324 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 12 (1864); *Jerd. Ibis*, 1872, p. 13; *Gray*,

*Hand-l. B.* ii. p. 215, no. 8990; *Hume, Nests & Eggs Ind. B.* p. 135 (1873); *Milne-Edw. & Grand. Hist. Madag. Ois., Atlas,* i. pl. 66 (1876); *Fairbank, Str. F.* iv. p. 255 (1876); *David & Oust. Ois. Chine,* p. 66 (1877); *Davidson & Wenden, Str. F.* vii. p. 78 (1878); *Hume, Str. F.* viii. p. 88 (1879); *Sharpe, Ibis,* 1879, p. 394; *Legge, B. Ceylon,* p. 231 (1880); *Vidal, Str. F.* ix. p. 54 (1880); *Butler, t. c.* p. 388; *Davison, Str. F.* x. p. 299 (1881); *Sharpe, Ibis,* 1888, p. 394; *Oates, Ibis,* 1889, p. 357; *Sharpe, Ibis,* 1890, p. 11.

Cuculus himalayanus vel bharovus, *Hodgs. Zool. Misc.* p. 85 (1831).

Cuculus canorus (*nec Linn.*), *Desjard. P. Z. S.* 1832, p. 111; *Hartl. Ann. & Mag. Nat. Hist.* ii. p. 391 (1848); *id. J. f. O.* 1860, p. 110; *Vinson, Voy. Madag.* p. 88 (1865); *Verr. Ann. B., Voy. Madag. Vinson,* p. 3 (1865).

Le Pigeon ramier gris et verdâtre, *Sganzin, Mém. Soc. Mus. Hist. Nat. Strasbourg,* 1840, p. 40.

Hierococcyx poliocephalus, *Bp. Consp. Av.* i. p. 104 (1850).

Cuculus bartlettii, *Layard, Ann. & Mag. Nat. Hist.* 2nd ser. xiii. p. 452 (1854).

Nicoclarius tenuirostris (*nec Less.*), *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Cuculus rochii, *Hartl. P. Z. S.* 1862, p. 224; *Roch & Newton, Ibis,* 1863, p. 166; *E. Newton, t. c.* p. 453; *Poll. Ned. Tijdsch. v. d. Dierk.* p. 300 (1863); *Schl. P. Z. S.* 1866, p. 424; *Schl. & Poll. Faun. Madag.* ii. *Ois.* p. 53 (1868); *Gray, Hand-l. B.* ii. p. 215, no. 8992; *Sharpe, P. Z. S.* 1870, p. 399, 1873, p. 582; *Hartl. Vög. Madag.* p. 253 (1877); *Bartlett, P. Z. S.* 1879, p. 771.

Cuculus clamosus (*nec Lath.*), *Coquerel, Bull. Soc. Accl. Réunion,* ii. p. 10 (1864).

Cuculus tamsuicus, *Swinh. Ibis,* 1865, p. 108.

Cuculus himalayanus (*nec Vig.*), *Grand. Rev. et Mag. Zool.* 1867, p. 418; *Poll. Faun. Madag., Relat. Voy.* i. p. 198 (1877).

Cuculus sp. inc., *Blakiston & Pryer, Ibis,* 1878, p. 227.

Cuculus poliocephalus, var. rochii, *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 176 (1879).

Cuculus leptodetus (*nec Cab.*), *Dubois, Bull. Mus. Hist. Nat. Belg.* iv. p. 147 (1886).

Cuculus stormsi, *Dubois, Bull. Mus. Hist. Nat. Belg.* v. p. 3, pl. 2 (1887).

*Adult male.* Very similar in plumage to *C. canorus*, but with the upper parts darker and with the bars on the breast rather broader and blacker. Total length 10 inches, culmen 0·75, wing 6·4, tail 5·8, tarsus 0·6.

*Adult female.* Similar in plumage to the male, only with a slight rufous-buff shade at the base of the grey neck. Total length 9·4 inches, culmen 0·7, wing 5·8, tail 5, tarsus 0·6.

*Rufous plumage.* Very similar to that of *C. canorus*, but generally darker. Upper half of the head, back of the neck, lower back, and upper tail-coverts uniform rufous, as in *C. canorus*, or more rarely with dark bars, as in *C. intermedius*. Underparts whitish, with broad black bars, and washed with rufous on the throat, most strongly so on the sides. "Legs, feet, eyelids, and base of lower mandible lemon-yellow; bill blackish brown, lower mandible brownish yellow; gape orange-red; claws pale" (*E. A. Butler*).

*Nestling.* Similar to that of *C. intermedius*.

*Hab.* Japan and N. China, ranging south through India to Ceylon; Malay Peninsula to Java and Borneo; also common in Madagascar and occurring more rarely in Africa south of about 6° N. lat.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Cashmere. | Hume Coll. |
| *c*. Imm. sk. | Murree. | Colonel Way [P.]. |
| *d*. ♀ ad. sk. | Nagkunda, June 17. | Hume Coll. |
| *e*. Pull. sk. | Kumaon. | Hume Coll. |
| *f*. ♂ ad. sk. | Futtehgurh District, May 29 (*A. Anderson*). | Seebohm Coll. |
| *g*. Ad. sk. | Oudh. | Pinwill Coll. |
| *h*, *i*. Ad.; *k*–*p*. Juv. sk. | Nepal. | Hodgson Coll. |
| *q*, *r*, *s*. Ad.; *t*, *u*. Juv. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *v*, *w*, *x*. Ad.; *y*–*d'*. Imm. sk. | Native Sikhim, May to Aug. (*L. Mandelli*). | Hume Coll. |
| *e'*–*k'*. Ad.; *l'*–*v'*. Imm. sk. | Sikhim, April, June, Sept., Oct. (*L. Mandelli*). | Hume Coll. |
| *w'*. Ad.; *x'*–*a''*. Juv. sk. | Darjiling. | Hume Coll. |
| *b''*, *c''*, *d''*. Ad.; *e''*–*h''*. Imm. sk. | Darjiling. | Tweeddale Coll. |
| *i''*, *k''*. Ad.; *l''*. Juv. sk. | Assam, May (*A. W. Chennell*). | Tweeddale Coll. |
| *m''*, *n''*. ♂ ♀ ad. sk. | Shillong, July, Sept. (*J. Cockburn*). | Hume Coll. |
| *o''*. ♂ juv. sk. | Dibrughur, Aug. 21 (*J. R. Cripps*). | Hume Coll. |
| *p''*, *q''*. Juv. sk. | Dhulia, Khandeish, Sept., Oct. (*J. Davidson*). | Hume Coll. |
| *r''*. ♂ imm. sk. | Ratnagiri, S. Konkan, Nov. 5 (*G. Vidal*). | Hume Coll. |
| *s''*. ♀ imm. sk. | Belgaum, Oct. (*E. A. Butler*). | Hume Coll. |
| *t''*. ♂ ad. sk. | Cannanore, Sept. 7 (*R. G. W. R.*). | Tweeddale Coll. |
| *u''*. ♂ ad. sk. | Madras. | Hume Coll. |
| *v''*. ♀ juv. sk. | Colombo, Ceylon, Dec. | Hume Coll. |
| *w''*, *x''*. Juv. sk. | Ceylon (*H. Nevill*). | Tweeddale Coll. |
| *y''*, *z''*. ♂ ad.; *a*$^3$. Imm. sk. | W. Java (*A. R. Wallace*). | |
| *b*$^3$. Imm. sk. | China. | Seebohm Coll. |
| *c*$^3$. Ad. sk. | Ichang, W. China. | Mr. Pratt [C.]. |
| *d*$^3$, *e*$^3$. Ad. sk. | Amoy, China, May (*R. Swinhoe*). | Seebohm Coll. |
| *f*$^3$. ♂ ad.; *g*$^3$. Juv. sk. | Yokohama, Japan. | Seebohm Coll. |
| *h*$^3$. Juv. sk. | Fantee, W. Africa (*Aubinn*). | Sharpe Coll. |
| *i*$^3$. Juv. sk. | Durban (*Gordge*). | Shelley Coll. |
| *k*$^3$. Juv. sk. | Lamu (*Sir J. Kirk*). | Shelley Coll. |
| *l*$^3$, *m*$^3$. Ad.; *n*$^3$, *o*$^3$. Juv. sk. | Madagascar. | Seebohm Coll. |
| *p*$^3$, *q*$^3$, *r*$^3$. Ad. sk. | Betsileo, Madagascar. | Rev. J. Shaw [C.]. |
| *s*$^3$. Ad.; *t*$^3$, *u*$^3$. Juv. sk. | Betsileo. | Rev. Deans Cowan [C.]. |
| *v*$^3$. Ad. sk. | N.E. Madagascar. | F. Pollen [C.]. |
| *w*$^3$. Bones of trunk. | Nepal. | Hodgson Coll. |

### 6. Cuculus solitarius.

Le Coucou solitaire, *Levaill. Ois. d'Afr.* v. p. 35, pl. 206 (1806).
Cuculus solitarius, *Steph. Gen. Zool.* ix. p. 84, pl. 18 (1815); *Vieill. Enc. Méth.* p. 1336 (1823); *Gurney, Ibis*, 1860, p. 213; *Layard, B. S. Afr.* p. 248 (1867); *Sharpe, P. Z. S.* 1873, p. 582; *Ayres, Ibis*, 1876, p. 433; *Shelley, P. Z. S.* 1882, p. 309; *Sharpe, ed. Layard's B. S. Afr.* pp. 149, 809 (1875–84); *id. Journ. Linn. Soc., Zool.* xvii. p. 432; *Salvad. Ann. Mus. Civ. Gen.* 1888, p. 214.
Cuculus rubeculus, *Swains. B. W. Afr.* ii. p. 181 (1837); *Fraser, P. Z. S.* 1843, p. 52; *Hartl. Orn. W.-Afr.* p. 190 (1857); *id. J. f. O.* 1861, p. 265; *Cab. & Heine, Mus. Hein.* iv. p. 40 (1862); *Mont. P. Z. S.* 1865, p. 92; *Sharpe, Ibis*, 1870, p. 485; *Gray, Hand-l. B.* ii. p. 215, no. 8991 (1870); *Reichen. J. f. O.* 1877, p. 16.
Cuculus capensis (*nec Müll.*), *Gray, Gen. B.* ii. p. 463 (1847); *Bp. Consp. Av.* i. p. 102 (1850); *Grill, Zool. Anteckn.* p. 41 (1858); *Cab. & Heine, Mus. Hein.* iv. p. 42 (pt., 1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 11 (1864); *Antin. Cat. descr. Ucc.* p. 83 (1865); *Gray, Hand-l. B.* ii. p. 215, no. 8987 (1870); *Heugl. Orn. N.O.-Afr.* p. 783 (1871); *Bocage, Orn. Angola*, p. 140 (1877).
Surniculus rubiculus, *Bp. Consp. Av.* i. p. 105 (1850).
Cuculus heuglini, *Cab. & Heine, Mus. Hein.* iv. p. 32 (1862); *Gray, Hand-l. B.* ii. p. 215, no. 8995 (1870); *Fischer, Zeitschr. ges. Orn.* 1884, p. 367; *id. J. f. O.* 1885, p. 124; *Reichen. J. f. O.* 1887, p. 58.

*Adult.* Above uniform slaty blue, with a slight green gloss on the wings and tail; centre tail-feathers with about four white shaft-spots, the others with larger white shaft-spots and seven or eight white angular notches on their inner webs, occasionally forming a subterminal bar on the outer feathers; sides of the head and upper throat grey, slightly paler than the crown; remainder of the throat uniform bright rufous; the rest of the underparts rufous-buff, regularly barred with black, except on the lower abdomen and under tail-coverts, the latter having only a few irregular broad black bands; under wing-coverts like the breast; under surface of the quills brown, partially barred with white, and with a large white patch at the base of the inner primaries; bill black, yellowish at the base of the lower mandible and along the edges of the upper one; legs deep yellow; iris reddish hazel. Total length 11·7 inches, culmen 0·85, wing 6·6, tail 5·3, tarsus 0·8.

*Immature birds* differ greatly. One has the upper parts slaty black, with narrow white edges to the feathers and a white patch on the nape; sides of the head black; throat and front of the breast black mottled with buff and rufous and with very narrow white edges to the feathers; remainder of the plumage as in the adult.

Another specimen from Fantee is brown above, with some rufous markings on the wings and upper tail-coverts; sides of the head mottled with buff or white; underparts whitish, shaded with buff on the lower throat, abdomen, and under tail-coverts, and nearly uniformly barred with black throughout.

*Hab.* Nearly the whole of the Ethiopian Region.

| | | |
|---|---|---|
| *a*. Ad. st. | South Africa. | Purchased. |
| *b–e*. Ad. sk. | South Africa (*Layard*). | Sharpe Coll. |
| *f*, *g*. Ad. sk. | South Africa. | Seebohm Coll. |
| *h*. Imm. st. | Cape Colony. | General Hardwicke [P.]. |
| *i*, *k*. Ad. sk. | Cape Colony. | F. Thackeray, Esq. [P.]. |
| *l*, *m*. Ad. sk. | Cape Town (*Butler*). | Sharpe Coll. |
| *n*, *o*. ♂ ad. sk. | Knysna, Dec. 12 (*C. J. Andersson*). | Sharpe Coll. |
| *p*. Ad. sk. | Fort Beaufort. | Sharpe Coll. |
| *q*. Ad. sk. | Kingwilliamstown. | Major Trevelyan [P.]. |
| *r*. Ad. sk. | Durban, Natal, Oct. (*T. Ayres*). | Shelley Coll. |
| *s*. ♂ ad. sk. | Newcastle, Sept. (*E. A. Butler*). | Shelley Coll. |
| *t*. Imm. sk. | Benguela. | Monteiro Coll. |
| *u*, *v*, *w*. Ad. sk. | Landana, Congo (*Dr. Lucan*). | Shelley Coll. |
| *x*, *y*, *z*. Ad. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *a'*. ♂ ad. sk. | Lado, Equatorial Africa (*Emin Pasha*). | Shelley Coll. |
| *b'*. Ad. sk. | Semmio, Niam-Niam Country, Sept. | F. Bohndorff [C.]. |
| *c'*. Ad. sk. | Cape Coast Castle. | L. Fraser [C.]. |
| *d'*, *e'*. Imm. sk. | Gold Coast (*Aubinn*). | Shelley Coll. |
| *f'*. Ad. sk. | Accra (*Haynes*). | Sharpe Coll. |
| *g'–l'*. Ad. et imm. sk. | Fantee. | Sharpe Coll. |

### 7. Cuculus gabonensis.

Cuculus gabonensis, *Lafr. Rev. et Mag. Zool.* 1853, p. 60; *Hartl. J. f. O.* 1854, p. 202; *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 177; *Hartl. Orn. W.-Afr.* p. 189 (1857); *Cass. Proc. Philad. Ac.* 1859, p. 142; *Hartl. J. f. O.* 1861, p. 265; *DuChaillu, Eq. Afr.* p. 473 (1861); *Cab. & Heine, Mus. Hein.* iv. p. 42, note (1862); *Sharpe & Bouvier, Bull. Soc. Zool. France*, iii. p. 73 (1878); *Sharpe, P. Z. S.* 1873, p. 584; *Reichen. J. f. O.* 1877, p. 16; *Oust. N. Arch. Mus.* (2) ii. p. 126 (1879).

*Adult*. Above glossy blue-black; centre tail-feathers uniform blue-black tipped with white, the outer feathers having a few white shaft-spots and the same number of white notches on their inner margins; sides of the head grey; chin and entire throat deep chestnut; breast buff, with broad jet-black bands and sometimes with a broader black band across the abdomen between the thighs; under tail-coverts uniform buff, or occasionally with a few broad black partial bars; under wing-coverts buffy white, boldly barred or mottled with black; quills dark brown, with some partial bars of white and a uniform white centre to the wing at the base of the quills: bill black, legs yellow. Total length 12·6 inches, culmen 0·9, wing 6·5, tail 6·4, tarsus 0·7.

*Hab*. West Africa from Gaboon to the Congo.

| | | |
|---|---|---|
| *a*. Ad. sk. | Gaboon. | Purchased. |
| *b*. Ad. sk. | Ogowé River. | H. T. Ansell, Esq. [P.]. |
| *c*, *d*. ♂ ad. sk. | Landana, Congo, Aug. | Shelley Coll. |

### 8. Cuculus clamosus.

Cuculus clamosus, *Lath. Ind. Orn.* ii. *Suppl.* p. xxx (1801); *Steph. Gen. Zool.* ix. p. 108 (1815); *Cuv. Règne An.* i. p. 425, note (1817); *Vieill. Enc. Méth.* p. 1331 (1823); *Des Murs in Lefebvre, Voy. Abyss., Zool.* p. 137 (1847); *Hartl. J. f. O.* 1854, p. 416; *Cab. & Heine, Mus. Hein.* iv. p. 43 (pt., 1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 16 (1864); *Layard, B. S. Afr.* p. 249 (1867); *Chapm. Trav. S. Afr.* ii. p. 408 (1868); *Gray, Hand-l. B.* ii. p. 215, no. 8994 (1870); *Heugl. Orn. N.O.-Afr.* pp. 784, clxiii (1871); *Gurney in Anderss. B. Damara L.* p. 226 (1872); *Salvad. Ann. Mus. Civ. Gen.* 1873, p. 411; *Sharpe, P. Z. S.* 1873, p. 587; *Buckley, Ibis*, 1874, p. 367; *Sharpe, ed. Layard's B. S. Afr.* pp. 150, 809 (1875-84); *Bocage, Orn. Angola*, p. 141 (1877); *Reichen. J. f. O.* 1877, p. 16; *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 432 (1884); *Salvad. Ann. Mus. Civ. Gen.* 1884, p. 94; *Shelley, P. Z. S.* 1888, p. 42.

Le Coucou criard, *Levaill. Ois. d'Afr.* v. p. 28, pls. 204, 205 (1806); *Sundev. Krit. om Levaill.* p. 47 (1858).

Cuculus nigricans, *Swains. Zool. Ill.* 2nd ser. i. pl. 7 (1829); *id. B. W. Afr.* ii. p. 180 (1837); *Hartl. J. f. O.* 1854, p. 203; *id. Orn. W. Afr.* p. 190 (1857); *Gurney, Ibis*, 1859, p. 246; *Hartl. J. f. O.* 1861, p. 265; *Cab. & Heine, Mus. Hein.* iv. p. 44, note (1862); *Cab. J. f. O.* 1878, p. 237; *Fischer, Zeitschr. ges. Orn.* 1884, p. 367; *id. J. f. O.* 1885, p. 124; *Hartert, J. f. O.* 1886, p. 597; *Reichen. J. f. O.* 1887, p. 58.

Surniculus nigricans, *Bp. Consp. Av.* i. p. 105 (1850).

Cuculus chalybeus, *Heugl. J. f. O.* 1862, p. 34.

Coccystes nigricans, *Gray, Hand-l. B.* ii. p. 220, no. 9067 (1870).

Coccystes serratus (*nec Sparrm.*), *Sharpe, Cat. Afr. B.* p. 13 (pt., 1871); *id. Ibis*, 1872, p. 68.

Oxylophus serratus, *Gurney in Anderss. B. Damara L.* p. 226 (1872).

*Adult.* Black with a deep greenish-blue gloss; quills brown; tail narrowly tipped with white; under surface duller black inclining to brown; under tail-coverts with pale ends; under wing-coverts black; quills brown, with confused white bars on their inner webs: bill black; legs yellow with the claws black; irides dark brown. Total length 12·2 inches, culmen 0·9, wing 6·7, tail 6·3, tarsus 0·75.

*Immature* (Tomaja). This specimen differs in the entire throat and crop being whitish brown, shaded with rufous and regularly barred with black; remainder of the underparts, including the under wing-coverts, white evenly barred with black. Total length 12·1 inches, wing 6·5, tail 6·3.

A specimen from Semmio differs from the last in having the throat almost uniform dusky grey, the sides of the breast smudged with dusky grey, and the under wing-coverts white, mottled irregularly with the same dusky shade. Total length 12·6 inches, wing 6·8, tail 6·2.

*Hab.* Tropical Africa generally, excepting Abyssinia and Senegambia.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*, *c*. ♂ juv. sk. | South Africa. | Seebohm Coll. |
| *d*. Juv. sk. | Cape Colony. | Sharpe Coll. |
| *e*. ♂ ad. sk. | Eland's Post (*T. C. Atmore*). | Sharpe Coll. |

| | | |
|---|---|---|
| *f*. ♂ ad. sk. | Katberg (*T. C. Atmore*). | Sharpe Coll. |
| *g*. Ad. sk. | Kingwilliamstown. | Major Trevelyan [P.]. |
| *h*, *i*, *k*. Ad. sk. | Natal (*Ayres*). | Sharpe Coll. |
| *l*–*o*. Ad. et imm. sk. | Durban. | Shelley Coll. |
| *p*. Ad. sk. | Newcastle (*Reid*). | Shelley Coll. |
| *q*. ♂ ad. sk. | Bamangwato, Nov. (*T. E. Buckley*). | Shelley Coll. |
| *r*. Ad. sk. | Zambesi. | Dr. Bradshaw [C.]. |
| *s*, *t*. ♀ imm. sk. | Elephant Vley, Oct. 19 (*C. J. Andersson*). | Sharpe Coll. |
| *u*. ♂ juv. sk. | Tomaja, Equatorial Africa, August. | Emin Pasha [P.]. |
| *v*. ♂ juv. sk. | Semmio, Niam-Niam Country, March. | F. Bohndorff [P.]. |
| *w*. Ad. sk. | Denkera, Gold Coast (*H. T. Ussher*). | Sharpe Coll. |
| *x*. Ad. sk. | Elmina (*H. F. Blissett*). | Sharpe Coll. |
| *y*. Ad. sk. | Amamoo, May (*H. F. Blissett*). | Sharpe Coll. |

### 9. Cuculus pallidus.

Columba pallida, *Lath. Gen. Syn. Suppl.* ii. p. 270 (1801).
Cuculus variegatus, *Vieill. N. Dict.* viii. p. 224 (1817); *id. Enc. Méth.* p. 1330 (1823); *Pucher. Rev. et Mag. Zool.* 1852, p. 555.
Cuculus cinereus, *Vieill. N. Dict.* viii. p. 224 (1817); *id. Enc. Méth.* p. 1331 (1823); *Pucher. Rev. et Mag. Zool.* 1852, p. 556.
Cuculus inornatus, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 297 (1826); *Gould, B. Austr.* iv. pl. 85 (1846); *Reichb. Vög. Neuholl.* ii. p. 115 (1849).
Cuculus albostrigatus, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 298 (1826).
Cuculus poliogaster, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 236, note (1839–44); *Cab. & Heine, Mus. Hein.* iv. p. 39, note (1862); *Finsch, Neu-Guinea*, p. 159 (1865); *Gray, Hand-l. B.* ii. p. 216, no. 9011 (1870).
Cacomantis inornatus, *Bp. Consp. Av.* i. p. 163 (1850).
Nicolarius poliogaster, *Bp. Consp. Vol. Zygod.* p. 6 (1854).
Cacomantis cinereus, *Bp. Consp. Vol. Zygod.* p. 6 (1854).
Heteroscenes pallidus, *Cab. & Heine, Mus. Hein.* iv. p. 26 (1862).
Heteroscenes occidentalis, *Cab. & Heine, Mus. Hein.* iv. p. 27, note (1862).
Cuculus pallidus, *Schl. Mus. Pays-Bas*, Cuculi, p. 26 (1864); *Gray, Hand-l. B.* ii. p. 216, no. 9013 (1870).
Cacomantis pallidus, *Gould, Handb. B. Austr.* p. 615 (1865); *Walden, Trans. Z. S.* viii. p. 54 (1872); *Salvad. Ann. Mus. Civ. Gen.* 1878, p. 457; *id. Orn. Papuasia*, i. p. 331 (1880).

*Adult.* Above ashy brown with a faint greenish gloss; a white patch of feathers on the nape, the wing-feathers mostly with narrow whitish edges; a white patch on the pinion-joints; lateral tail-coverts with partial white margins; tail-feathers tipped and notched on both webs with white approaching the form of bars: beneath uniform stone-colour, fading into white on the abdomen and under tail-coverts, the latter crossed by dusky bars; the lower breast, especially the thigh-coverts, showing traces of obsolete dusky bars; under wing-coverts whiter than the breast, freckled with dusky and

shading into the same colour as the breast towards the quills; quills barred on their inner webs with white: iris brown; bill blackish; legs brown. Total length 12 inches, culmen 0·95, wing 7·7, tail 6·8, tarsus 0·8.

*Immature.* Upper parts, especially the back of the neck, mottled with rufous; sides of the head striped with buff and dark brown; underparts occasionally, but rarely, more or less barred.

*Nestling.* Forehead and front of crown dark brown; remainder of the upper parts buff and white, boldly mottled with dark brown; rump and upper tail-coverts more regularly marked with dark brown centres to the feathers: quills and tail-feathers brown, with pale tips and partial bars; sides of the head and the throat dark brown, partially mottled with buff and white: remainder of the underparts much whiter, with somewhat regular patches of brown; under wing-coverts buff; under surface of the quills brown, partially barred with white. Total length 8 inches, wing 4·6.

*Hab.* Probably confined to Australia; but possibly ranging into the Austro-Malayan subregion, as the type of *Cuculus poliogaster*, S. Müll., in the Leyden Museum, is labelled "Ternate (Forsten)."

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*. ♀ imm. sk. | Tasmania. | Antarctic Expedition. |
| *c*, *d*. ♂ ad. sk. | Tasmania. | C. G. H. Lloyd, Esq. [P.]. |
| *e*, *f*, *g*. Ad. sk. | Melbourne. | Gould Coll. |
| *h*. Ad. sk. | Adelaide. | Seebohm Coll. |
| *i*, *k*. Imm. sk. | S. Australia (*J. Gould*). | Sir G. Grey [P.]. |
| *l*, *m*. Ad.: *n*. Imm. sk. | New South Wales. | Seebohm Coll. |
| *o*. Ad. sk. | Sydney. | Tweeddale Coll. |
| *p*–*w*. Ad. et imm. sk. | Queensland. | Tweeddale Coll. |
| *x*. Ad. sk. | N.W. Australia (*W. H. Bowyer Bower*). | Capt. Bowyer Bower [P.]. |
| *y*. Pull. sk. | Near Salt River, W. Australia, Oct. 17. | J. Gould, Esq. [C.]. |
| *z*. ♀ ad. sk. | Near Fremantle, W. Australia, July 29. | J. Gould, Esq. [C.]. |
| *a'*. ♂ ad. sk. | Australia, May 28. | Sir T. Mitchell [P.]. |
| *b'*. Ad. sk. | Australia. | Lady Carrington [P.]. |
| *c'*, *d'*. Imm. et pull. sk. | Australia. | Seebohm Coll. |
| *e'*. Ad. sk. | Australia. | Linnean Soc. (Type of *C. inornatus*.) |
| *f'*. Juv. sk. | Australia. | Linnean Soc. (Type of *C. albostrigatus*.) |
| *g'*. Skull. | New South Wales. | |

### 10. Cuculus sonnerati.

Le petit Coucou des Indes, *Sonn. Voy. Ind.* ii. p. 211 (1782).
Cuculus sonnerati, *Lath. Ind. Orn.* i. p. 215 (1790); *Steph. Gen. Zool.* ix. p. 111 (1815); *Vieill. Enc. Méth.* p. 1334 (1823); *Blyth, J. A. S. Beng.* xi. p. 906 (1842), xiv. p. 204 (1845); *Gray, Gen. B.* ii. p. 464 (1847); *Layard, Ann. & Mag. Nat. Hist.* xiii. 2nd ser.

p. 452 (1854); *Jerd. B. Ind.* i. p. 325 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 23 (pt., 1864); *Gray, Hand-l. B.* ii. p. 218, no. 9032 (1879); *Holdsworth, P. Z. S.* 1872, p. 430; *Walden, Trans. Z. S.* viii. p. 55 (1872); *Legge, Ibis*, 1874, p. 15; *Hume, Str. F.* ii. p. 472 (1874); *Legge, Ibis*, 1875, p. 284; *Fairbank, Str. F.* iv. p. 255 (1876); *Hume, Str. F.* vi. p. 156 (1878); *Ball, Str. F.* vii. p. 207 (1878); *Hume, Str. F.* viii. p. 88 (1879); *Legge, B. Ceylon*, i. p. 233 (1880); *Butler, Str. F.* ix. pp. 54, 388 (1880); *Davison, t. c.* p. 359; *Oates, Handb. B. Brit. Burmah*, ii. p. 107 (1883); *Sharpe, Ibis*, 1888, p. 198; *Everett, P. Z. S.* 1889, p. 226; *Whitehead, Ibis*, 1890, p. 46.

Cuculus pravata, *Horsf. Trans. Linn. Soc.* xiii. p. 179 (1822); *Strickl. J. A. S. Beng.* 1844, p. 399, note; *Walden, Trans. Z. S.* viii. p. 55 (1872); *Hume, Str. F.* viii. p. 53 (1879).

Cuculus rufovittatus, *Drap. Dict. Class. d'Hist. Nat.* iv. p. 568 (1823); *id. Dict. Class. Sc. Nat.* iii. p. 143 (1838).

Cuculus himalayanus (*nec Vig.*), *Jerd. Madr. Journ.* xi. p. 220 (1840).

Cuculus fasciolatus, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 177, note (1839–44).

Cuculus venustus, *Jerd. Madr. Journ.* xiii. p. 140 (1842).

Cacomantis fasciolatus, *Bp. Consp. Av.* i. p. 104 (1850).

Polyphasia sonnerati, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 699 (1856–58).

Penthoceryx sonnerati, *Cab. & Heine, Mus. Hein.* iv. p. 16 (1862); *Walden, Ibis*, 1872, p. 367; *A. Müll. J. f. O.* 1882, p. 104.

Penthoceryx pravatus, *Walden, Ibis*, 1872, p. 367; *Salvad. Ucc. di Borneo*, p. 63 (1874); *id. Ann. Mus. Civ. Gen.* xiv. p. 185 (1879); *Sharpe, Ibis*, 1879, p. 244; *Nicholson, Ibis*, 1882, p. 54; *Sharpe, Ibis*, 1890, p. 10.

Cacomantis sonnerati, *Walden, Trans. Z. S.* viii. p. 55 (1872).

Ololygon tenuirostris, *Hume, Str. F.* ii. p. 472 (1874), iii. p. 80 (1875).

Cacomantis pravatus, *Büttik. Notes Leyden Mus.* 1886, p. 27.

*Adult.* Above alternately barred with rufous and dusky bronze, with a slight olive gloss; forehead more or less spotted with white; a white patch on the carpal joint faintly barred with dusky; tail with rufous-shaded white ends; centre feathers blackish, with a number of rufous notches on both webs; remaining feathers bright rufous, with a broad subterminal dark bar and a variable number of other bands; sides of the head and underparts white, evenly marked with narrow wavy bars of blackish brown, the lower breast and under tail-coverts slightly tinted with rufous; under wing-coverts pale rufous buff, barred like the breast; under surface of the quills dark brown, with a large basal portion of their inner webs rufous buff, more or less barred with dark brown; bill black, with base of lower mandible grey; legs greenish grey. Total length 9·2 inches, culmen 0·75, wing 4·8, tail 4·8, tarsus 0·7.

*Immature.* Above rufous; the upper back, scapulars, and wing-coverts barred with olive-shaded black; a band of this colour runs down the centres of some of the tail-feathers, and most of these feathers have bold black spots near their ends and occasionally white tips; sides of the head and sides of the neck rufous like the crown; remainder of the underparts white, with the blackish bars on the throat and chest broader than in the adult.

*Hab.* Indian Peninsula and Ceylon, ranging throughout the Burmese Provinces and Malayan Peninsula to Sumatra, Java, Borneo, and Timor.

| | | |
|---|---|---|
| *a, b.* ♂ ad.; *c.* Juv. sk. | Ceylon, April (*H. Nevill and S. Chapman*). | Tweeddale Coll. |
| *d, e, f.* Ad. sk. | Ceylon. | Purchased. |
| *g, h.* ♂ ♀ ad. sk. | Friars Hood District, Ceylon, Oct., March. | Colonel Legge [P.]. |
| *i.* ♂ ad. sk. | Coonoor, Nilghiris, April 3. | W. Davison, Esq. [P.]. |
| *k.* ♀ ad. sk. | Burliar, Coonoor Ghat, April (*R. G. W. R.*). | Tweeddale Coll. |
| *l.* ♂ ad. sk. | Wynaad, Sept. 22 (*J. Darling*). | Hume Coll. |
| *m.* ♂ ad. sk. | Cannanore, Sept. 9 (*R. G. W. R.*). | Tweeddale Coll. |
| *n–q.* Ad. sk. | Malabar. | Seebohm Coll. |
| *r.* ♀ ad. sk. | Vingorla, S. Konkan, Feb. 21 (*G. Vidal*). | Hume Coll. |
| *s.* Ad. sk. | Matheran, April 6. | Hume Coll. |
| *t, u.* Ad. sk. | Khandeish. | Tweeddale Coll. |
| *v.* ♂ ad. sk. | Raipur, Central Provinces, July 20. | Hume Coll. |
| *w.* Ad. sk. | Maunbhoom, April (*R. C. Beavan*). | Tweeddale Coll. |
| *x, y.* Ad. sk. | Masuri. | Hume Coll. |
| *z.* Ad. sk. | Kumaon. | Hume Coll. |
| *a'*, *b'*. Ad. sk. | Nepal. | Hodgson Coll. |
| *c'*. Ad. sk. | Sikhim, April (*L. Mandelli*). | Hume Coll. |
| *d'*. Ad. sk. | Darjeeling. | Hume Coll. |
| *e'–m'*. Ad. et juv. sk. | Bhutan Doars, Jan. to March (*L. Mandelli*). | Hume Coll. |
| *n'*. Ad. sk. | Khasia Hills (*A. W. Chennell*). | Tweeddale Coll. |
| *o'*. Ad. sk. | Tonghoo. | Seebohm Coll. |
| *p'*. ♂ ad. sk. | Thayetmyo, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| *q'*. Ad. sk. | Tenasserim. | J. C. D. Packman, Esq. [P.]. |
| *r'*. ♀ ad sk. | Klang, Salangore, March 29 (*W. Davison*). | Hume Coll. |
| *s'*, *t'*. Imm. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *u'*, *v'*. Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *w'–d''*. Ad. sk. | Malacca, Jan., July (*W. Davison*). | Hume Coll. |
| *e''*. Ad. sk. | Kuroo, Malacca, Oct. 31 (*W. Davison*). | Hume Coll. |
| *f''*, *g''*, *h''*. ♂ ad.; *i''*, *k''*. ♀ ad. sk. | Johore, Feb., Aug., Sept. (*W. Davison*). | Hume Coll. |
| *l''*, *m''*, *n''*. Ad. sk. | Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *o''*. ♀ ad. sk. | Sumatra. | Wallace Coll. |
| *p''*. Ad. sk. | Java (*Horsfield*). | India Museum. (Type of *Cuculus pravatus*.) |
| *q''*. ♂ ad sk. | Java. | Seebohm Coll. |
| *r''*. ♂ ad.; *s''*. ♀ juv. sk. | East Java (*A. R. Wallace*). | Tweeddale Coll. |
| *t''*, *u''*, *v''*. Ad. sk. | Sarawak, Aug. (*A. H. Everett*). | Seebohm Coll. |
| *w''*. ♂ ad. sk. | Sarawak (*A. R. Wallace*). | Tweeddale Coll. |
| *x''*. ♀ ad. sk. | Busan (*A. Everett*). | Tweeddale Coll. |
| *y''*. ♀ imm. sk. | Sabu (*A. Everett*). | Tweeddale Coll. |
| *z''*. Ad. sk. | Tagora (*H. Everett*). | Tweeddale Coll. |

| | | |
|---|---|---|
| $a^3$. Ad. sk. | Lumbidan. | Governor Ussher [C.]. |
| $b^3$, $c^3$. Ad. sk. | Labuan. | Sir Hugh Low [C.]. |
| $d^3$. Imm. sk. | Timor. | Tweeddale Coll. |

## 7. CERCOCOCCYX.

| | Type. |
|---|---|
| Cercococcyx, *Cab. J. f. O.* 1882, p. 230 ..... | C. mechowi. |

### 1. Cercococcyx mechowi.

Cercococcyx mechowi, *Cab. J. f. O.* 1882, p. 230.

Above brownish grey, with a greenish gloss on the back of the neck and mantle; greater wing-coverts and quills with the outer webs reddish brown, the inner webs blotched with white. Beneath whitish, washed with yellowish on the breast, and with black bars. Total length 13 inches, culmen 0·85, wing 5·55, tail 8·25.

*Hab.* Angola.

This species is only known to me by the description, from which it appears to resemble very closely the young of *Cuculus solitarius*.

## 8. CACOMANTIS.

| | Type. |
|---|---|
| Cacomantis, *S. Müll. Verh. Nat. Gesch. Land- en Volkenk. Bezitt.* p. 177 (1842) ..... | C. merulinus. |
| Polyphasia, *Blyth, J. A. S. Beng.* xii. p. 244 (1843) .. | ? |
| Gymnopus, *Blyth, Ann. & Mag. Nat. Hist.* 1843, p. 94 | C. passerinus. |
| Ololygon, *Cab. & Heine, Mus. Hein.* iv. p. 20, note (1862) ..... | C. passerinus. |

*Range.* Indian Peninsula and Ceylon, eastward to China and the Philippine Islands, south through the Burmese provinces, the Malay Peninsula, the whole of the Malayan Archipelago to Australia, New Caledonia, New Hebrides, and the Fiji Islands.

*Key to the Species.*

*a*. With no bars on the breast. [*Adults.*]
  *a'*. With a shade of rufous on the breast and under tail-coverts.
    *a''*. Upper parts paler and greyer.
      *a'''*. Larger: wing about 5·5. Breast rufescent, darker than abdomen, which is generally freckled ..... *flabelliformis*, p. 266.
      *b'''*. Smaller: wing about 4·5. Breast and under tail-coverts uniform rufous buff ..... *merulinus*, p. 268.
    *b''*. Upper parts darker.
      *c'''*. Upper parts brown; breast buff.
        $a^4$. Breast paler; under tail-coverts buff. *variolosus*, p. 272.

*b*¹. Breast darker, partially washed with rufous; under tail-coverts rufous .. *insperatus*, p. 273.
*d*''. Upper parts deep slaty blue; breast and under tail-coverts chestnut.
*e*¹. Smaller: wing about 4·3.
*a*⁵. Upper parts glossed with green; chin and upper throat pale grey; breast duller rufous..... *virescens*, p. 274.
*b*⁵. Upper parts deep blue-grey, barely glossed with green on the wings only; grey confined to chin; breast brighter rufous..... *castaneiventris*, p. 274.
*d*¹. Larger: wing not less than 5 inches.
*c*⁵. Bill longer and narrower ..... *bronzinus*, p. 275.
*d*⁵. Bill shorter and broader ..... *simus*, p. 276.
*b*'. With no shade of rufous on breast or under tail-coverts.
*c*''. General plumage black ..... *infuscatus*, p. 276.
*d*''. General plumage grey; under tail-coverts white ..... *passerinus*, p. 277.
*b*. With bars on the breast. [*Young.*]
*c*'. Upper parts uniform black ..... *infuscatus* juv., p. 276.
*d*'. Crown, rump, and tail nearly uniform rufous ..... *passerinus* juv., p. 277.
*e*'. All the upper parts strongly barred..... } Young of remaining species.

## 1. Cacomantis flabelliformis.

Fan-tailed Cuckow, *Lath. Suppl.* ii. p. 138, pl. 126.

Cuculus flabelliformis, *Lath. Ind. Orn. Suppl.* ii. p. 30 (1801); *Steph. Gen. Zool.* ix. p. 96 (1815); *Vieill. N. D.* viii. p. 233 (1817); *id. Enc. Méth.* p. 1335 (1823); *Gray, Gen. B.* ii. p. 463 (1847); *Schl. Mus. Pays-Bas*, Cuculi, p. 26 (1864); *Gray, Hand-l. B.* ii. p. 217, no. 9020 (1869).

Cuculus rufulus, *Vieill. N. D.* viii. p. 234 (1817); *id. Enc. Méth.* p. 1335 (1823); *Gray, Gen. B.* ii. p. 463 (1847); *Pucher. Rev. et Mag. Zool.* 1852, p. 560; *Hartl. J. f. O.* 1855, p. 422.

Cuculus pyrrhophanus, *Vieill. N. D.* viii. p. 234 (1817); *id. Enc. Méth.* p. 1335 (1823); *Pucher. Rev. et Mag. Zool.* 1852, p. 560; *Hartl. J. f. O.* 1855, p. 421.

Cuculus prionulus, "*Ill.*," *Licht. Verz. Doubl.* p. 9 (1821).

Cuculus cineraceus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 298 (1826); *Jard. & Selby, Ill. Orn.* v. p. 67 (c. 1836); *Blyth, J. A. S. Beng.* 1843, p. 242; *Strickl. J. A. S. Beng.* 1844, p. 391, note; *Gould, B. Austr.* iv. p. 86 (1848); *Rchb. Vög. Neuholl.* ii. p. 113; *Rosenb. Reis naar Zuidoostereil.* p. 49 (1867).

Cuculus incertus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 299 (1826); *Gray, Gen. B.* ii. p. 463 (1847).

Cuculus flavus, pt., *Less. Traité*, p. 152 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 69; *Hartl. J. f. O.* 1855, p. 422.

Cuculus cinerascens, *Gray, Gen. B.* ii. p. 463 (1847).

Cuculus pyrrhophanes, *Gray, l. c.* p. 463.

Cacomantis flabelliformis, *Bp. Consp.* i. p. 104 (1850); *id. Consp. Vol. Zygod.* p. 6 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 24 (1862); *Gould, Handb. B. Austr.* i. p. 618 (1865); *Walden, Tr. Z. S.* viii. p. 54 (1872); *Ramsay, P. Z. S.* 1875, p. 600; *Forbes,*

*P. Z. S.* 1878, p. 125; *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 457 (1878); *id. Orn. Papuasia*, i. p. 332 (1880); *Forbes, Rep. Voy. 'Challenger,'* ii. p. 90 (1880).

Cacomantis incertus, *Bp. Consp. Vol. Zygod.* p. 6 (1854).

*Adult male.* Above blue-grey, with a slight greenish gloss on the wings; a white patch on the pinion-joint; upper tail-coverts with some white on the sides of the outer feathers; tail blue-black, all the feathers with white tips and notches of white on their margins, these notches increasing in depth towards the outer feathers, and often assuming the form of almost complete bars; sides of the head and chin grey, shading into isabelline rufous on the throat and under surface of the body; under wing-coverts rufous buff, passing into dusky grey towards the quills; quills dark brown, with a white patch on their inner webs, forming a diagonal white bar: "bill black, except at the base of the lower mandible, where it is fleshy orange; feet yellowish olive; iris dark brown; eyelid beautiful citron-yellow" (*J. Gould*). Total length 10·2 inches, culmen 0·7, wing 5·5, tail 5·8, tarsus 0·75.

*Adult female.* Very similar in plumage to the male, but slightly duller below, where the feathers of the throat and breast show traces of narrow indistinct dusky bars. "Iris brick-colour" (*F. Strange*). Total length 10 inches, culmen 0·7, wing 5·4, tail 5·6, tarsus 0·75.

*Young.* Above dark brown mottled with rufous buff; tail-feathers notched with rufous buff on the outer webs and with white on the inner ones: beneath white, shaded with rufous buff on the throat and front of the breast, and barred with dark brown; under wing-coverts buffy white, partially barred with dark brown. Total length 8·8 inches, wing 5.

The type of *Cuculus incertus*, Vig., is a young bird with the upper parts nearly uniform brown, and with dusky bars over the entire throat and breast. Total length 9·7 inches, culmen 0·65, wing ·55, tail 5·3, tarsus 0·75.

*Hab.* Australia and Tasmania.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*. ♀ ad. sk. | Tasmania. | C. G. H. Lloyd, Esq. [P.]. |
| *d*, *e*. Ad. sk. | Tasmania. | Ronald Gunn, Esq. [P.]. |
| *f*. Ad. sk. | Frankland Is., June (*McGillivray*). | Capt. Stanley [P.]. |
| *g*–*n*. Ad.; *o*. ♀ juv. sk. | Australia. | Seebohm Coll. |
| *p*–*t*. Ad.; *u*. Juv. sk. | Australia. | Tweeddale Coll. |
| *v*. Ad.; *w*. Juv. st. | Australia. | J. Gould, Esq. [P.]. |
| *x*, *y*. Ad. sk. | Australia. | Linnean Society. (Types of *C. cineraceus*.) |
| *z*. Juv. sk. | Australia. | Linnean Society. (Type of *C. incertus*.) |
| *a'*. ♂ ad. sk. | S. Australia (*J. Gould*). | Sir T. Mitchell [P.]. |
| *b'*. Ad. sk. | Melbourne. | Tweeddale Coll. |
| *c'*, *d'*. ♀ ad. et juv. sk. | New South Wales. | Gould Coll. |
| *e'*, *f'*. Ad. sk. | Sydney. | Tweeddale Coll. |
| *g'*–*k'*. Ad. sk. | Burwood, N. S. W. June. | Hume Coll. |

| | | |
|---|---|---|
| *l'*, *m'*. ♂ ♀ ad. sk. | Moreton Bay (*F. Strange*). | Tweeddale Coll. |
| *n'*–*t'*. Ad.; *u'*. Juv. sk. | Queensland. | Seebohm Coll. |
| *v'*, *w'*. Ad.; *x'*, *y'*, *z'*. Juv. sk. | Cape York (*J. T. Cockerell*). | Salvin-Godman Coll. |
| *a''*. ♀ ad. sk. | Cape York. | Voy. H.M.S. 'Challenger.' |
| *b''*. Ad. sk. | Swan R., Western Australia. | R. B. Sharpe, Esq. [P.]. |

## 2. Cacomantis merulinus.

Le petit Coucou de l'Isle Panay, *Sonn. Voy. Nouv. Guin.* i. p. 122, pl. 81 (1776).

Cuculus merulinus, *Scop. Del. Flor. et Faun. Insubr.* ii. p. 89 (1786); *Strickl. J. A. S. Beng.* 1844, p. 391; *Blyth, Cat. B. M. As. Soc.* p. 71 (1864); *Schl. Mus. Pays-Bas*, Cuculi, p. 21 (1864); *Gray, Hand-l. B.* ii. p. 217, no. 9016 (1870).

Cuculus flavus, *Gm. S. N.* i. p. 421 (1788); *Steph. Gen. Zool.* ix. p. 107 (1815); *Horsf. Trans. Linn. Soc.* xiii. p. 179 (1822); *Raffl. t. c.* p. 285; *Vig. Mem. Raffl.* p. 671 (1830); *Less. in Bélang. Voy. Ind. Orient.* p. 231 (1834); *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 177 (1839–44); *Blyth, J. A. S. Beng.* 1842, p. 912, 1843, p. 241; *Low, Sarawak*, p. 411 (1848); *Walden, Ibis*, 1869, p. 337.

Surniculus flavus, *Less. Traité*, p. 151 (1831).

Coucou à tête grise de Java, *Less. in Bélang. Voy. Zool.* p. 237 (1834).

Cuculus sepulcralis, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 177, note (1839–44); *Gray, Hand-l. B.* ii. p. 217, no. 9022 (1870).

Cuculus lanceolatus, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 178 (1839–44).

Cuculus abruptus, *Burm. Verz. Mus. Halle*, p. 54 (1850).

Cacomantis flavus, *Bp. Consp.* i. p. 103 (1850).

Cacomantis sepulcralis, *Bp. Consp.* i. p. 104 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 20 (1862); *Sclat. P. Z. S.* 1863, p. 209; *Walden, Trans. Z. S.* viii. p. 54 (1872); *Salvad. Ucc. Borneo*, p. 65 (1874); *Tweedd. P. Z. S.* 1878, p. 945; *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 656 (1881); *Guillemard, P. Z. S.* 1885, p. 550; *Beddard, P. Z. S.* 1885, p. 175.

Cuculus lineatus, *Pucher, Rev. et Mag. Zool.* 1853, p. 70.

Cacomantis borneensis, *Bp. Consp. Vol. Zygod.* p. 6 (1854); *Wald. Tr. Z. S.* viii. p. 54 (1872).

Polyphasia merulina, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 697 (1856–58).

Cacomantis threnodes, *Cab. & Heine, Mus. Hein.* iv. p. 19 (1862); *Wald. Tr. Z. S.* viii. p. 54 (1872); *Hume & Davis. Str. F.* vi. p. 158; *Ball, op. cit.* vii. p. 207 (1878); *Cripps, t. c.* p. 265; *Hume, op. cit.* viii. pp. 54, 89 (1879); *Bingham, op. cit.* ix. p. 167 (1880); *Kelham, Ibis*, 1881, p. 391; *A. Müll. J. f. O.* 1882, p. 405; *Oates, Handb. B. Brit. Burmah*, ii. p. 111 (1883); *A. Müll. J. f. O.* 1885, p. 157; *Salvad. Ann. Mus. Civ. Gen.* 1888, p. 568.

Cuculus rufoviridis, *Cab. & Heine, Mus. Hein.* iv. p. 20 (1862).

Cacomantis merulinus, *Cab. & Heine, Mus. Hein.* iv. p. 21; *Wald. Tr. Z. S.* viii. p. 156 (1872); *Salvad. Ucc. Borneo*, p. 64 (1874); *Wald. Tr. Z. S.* ix. p. 160 (1875); *Sharpe, Ibis*, 1876, p. 34, 1877,

p. 7; *id. Trans. Linn. Soc.* ser. 2, i. *Zool.* p. 320 (1877); *Tweedd. P. Z. S.* 1877, p. 691, 1878, pp. 613, 709; *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 185 (1879); *Sharpe, Ibis*, 1879, p. 244; *Hume, Str. F.* viii. p. 54 (1879); *Tweedd. P. Z. S.* 1879, p. 69; *Sharpe, t. c.* 1879, p. 328, 1881, p. 792; *Wardlaw Ramsay, App. Tweed. Orn. Works*, p. 656 (1881); *Büttik. Notes Leyden Mus.* ix. p. 28 (1886); *Salvad. Ann. Mus. Civ. Gen.* 1887, p. 532; *Sharpe, Ibis*, 1888, p. 198, 1890, p. 10; *Whitehead, t. c.* p. 46; *Everett, P. Z. S.* 1889, p. 225.

Polyphasia tenuirostris (*nec S. Müll.*), *Jerd. B. Ind.* i. p. 335 (pt.) (1862).

Cacomantis dysonomus, *Heine, J. f. O.* 1863, p. 352.

Cacomantis querulus, pt., *Heine, J. f. O.* 1863, p. 352.

Polyphasia rufiventris, *Jerd. Ibis*, 1872, p. 15.

Cacomantis passerinus (*nec Vahl*), *Blyth & Walden, B. Burmah*, p. 80 (1875).

Ololygon tenuirostris, *Hume, Str. F.* iii. p. 80 (1875).

Cacomantis rufiventris, *Armstrong, Str. F.* iv. p. 312 (1876); *Wardlaw Ramsay, Ibis*, 1877, p. 458; *Anders. Zool. Exped. Yunnan*, p. 587 (1878).

Cacomantis tenuirostris (*nec Bp.*), *David & Oust. Ois. Chine*, p. 62 (1877).

Cuculus threnodes, *Gray, Hand-l. B.* ii. p. 217, no. 9017.

*Adult male.* Upper half of the head and back of the neck leaden grey, passing gradually into brown, with an olive gloss on the back and wings; feathers of the pinion-joint white, forming a patch; upper tail-coverts grey like the crown; tail slaty black with white ends, the outer webs of the feathers notched with white, the inner webs regularly barred with white, most strongly so on the outer feathers; sides of the head, chin, throat, and front of chest uniform grey, slightly paler than the crown; remainder of the body and under tail-coverts and the under wing-coverts uniform rufous-buff; under surface of the quills dusky brown, with a diagonal bar of white formed by the white on the inner webs near the base of the quills: "bill black, base of lower mandible reddish; iris light red; feet and legs waxy naples yellow, nails black" (*A. Everett*). Total length 8·2 inches, culmen 0·65, wing 4·3, tail 4·3, tarsus 0·65.

*Immature.* Above rufous, nearly equally barred throughout with olive shaded black; primaries alone more uniform brown; underparts buff, narrowly barred throughout with dusky black; under wing-coverts like the chest; pale portion of the quills more rufous than in the adult and indicating partial bars: "bill dusky black, yellowish at the gape and base of lower mandible; iris yellowish white, legs and feet dingy greyish yellow" (*A. O. Hume*). Total length 9·1 inches, culmen 0·7, wing 4·3, tail 5, tarsus 0·7.

This species appears to embrace three races, all of which have received a name, viz. *Cuculus merulinus*, Scop., a pale bird with the grey of the head and throat sharply defined and with clear regular white bars across the inner webs of the tail-feathers. *Cacomantis threnodes*, Cab., a rather darker bird with a deeper rufous-buff colour on the breast. *Cuculus sepulcralis*, S. Müll., with the upper parts nearly uniform, the notches on the outer webs

of the tail-feathers slightly shaded with rufous and the white bars on their inner webs almost obsolete.

The large series in the British Museum shows that these are not local forms, nor have they any distinctive measurements; therefore the paler or darker colouring must be due to climate, which is no doubt the cause of the other variations—*C. merulinus*, Scop., inhabiting the drier and more arid districts, *C. threnodes*, Cab., from localities which have a greater amount of rainfall, while *C. sepulcralis* is probably founded on specimens in the last stage of immaturity.

*Hab.* South-eastern and Central India. Eastern Himalayas to Assam and China, south through the Burmese Provinces to the Malayan Peninsula and the Indo-Malayan Islands.

| | | |
|---|---|---|
| *a*. Ad. sk. | Madras. | Dr. Jerdon [P.]. |
| *b*, *c*. ♂ ad. sk. | Raipur, Feb. | Hume Coll. |
| *d*, *e*. Ad.; *f*. Juv. sk. | Calcutta, Jan. | Hume Coll. |
| *g*. ♂ imm. sk. | Barrackpur, Sept. (*R. C. Beavan*). | Tweeddale Coll. |
| *h*. Ad.; *i*, *k*, *l*. Imm. sk. | Dacca. | Hume Coll. |
| *m*. Imm. sk. | Nepal. | Hodgson Coll. |
| *n*. Juv. sk. | Bhutan (*Pemberton*). | India Museum. |
| *o*. Imm. sk. | Bhutan Doars, Jan. (*L. Mandelli*). | Hume Coll. |
| *p*, *q*, *r*. Ad.; *s*. Imm. sk. | Assam (*A. W. Chennell*). | Tweeddale Coll. |
| *t*. ♂ juv. sk. | Shillong, Sept. (*J. Cockburn*). | Hume Coll. |
| *u*, *v*. ♂ ad. et juv. sk. | Sadhya, April (*J. Cockburn*). | Hume Coll. |
| *w*. ♂ imm. sk. | N. Khasia Hills, Dec. (*A. W. Chennell*). | Tweeddale Coll. |
| *x*. Imm. sk. | Khasia Hills. | Hume Coll. |
| *y*, *z*, *a'*. ♂ ad.; *b'*, *c'*, *d'*. ♀ ad. et imm. sk. | Dibrughur, Dec. to April (*J. R. Cripps*). | Hume Coll. |
| *e'*, *f'*, *g'*. Ad.; *h'*–*l'*. Imm. sk. | Cachar, Jan., March (*A. O. H. & J. Inglis*). | Hume Coll. |
| *m'*–*t'*. Ad.: *u'*, *v'*, *w'*. Imm. sk. | Manipur, March to May (*A. O. H.*). | Hume Coll. |
| *x'*. ♂ juv. sk. | Tippera (*V. Irwin*). | Hume Coll. |
| *y'*–*b''*. Ad. et imm. sk. | Akyab district, Dec. to March (*J. Armstrong*). | Hume Coll. |
| *c''*–*k''*. ♂ ad. et imm.; *l''*–*q''*. ♂ imm. sk. | Lower Pegu, Dec. to May and July to Oct. | Oates Coll. |
| *r''*. ♂ ad.; *s''*. Juv. sk. | Thayetmyo, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| *t''*, *u''*. Ad. et imm. sk. | Irawady Delta. | Hume Coll. |
| *v''*–*a*³. Ad. sk. | Tonghoo, March, April, June (*R. G. W. R.*). | Tweeddale Coll. |
| *b*³, *c*³, *d*³. ♂ ad. et juv. sk. | Karen-nee, March (*R. G. W. R.*). | Tweeddale Coll. |
| *e*³. ♀ ad. sk. | Pahpoon, Dec. (*W. Davison*). | Hume Coll. |
| *f*³, *g*³. ♂ ad. sk. | Khy-kehto, Jan. (*W. D.*). | Hume Coll. |
| *h*³. ♂ ad. sk. | Thatone, Jan. (*W. D.*). | Hume Coll. |
| *i*³. Juv. sk. | Assoon, March (*W. Limborg*). | Tweeddale Coll. |
| *k*³, *l*³. Ad.; *m*³, *n*³, *o*³. Juv. sk. | Moulmein, Dec., March, April, Aug. | Hume Coll. |
| *p*³, *q*³. ♂ ad. sk. | Kaukaryit, June (*J. Darling*). | Hume Coll. |
| *r*³. ♂ ad. sk. | Meetan, Feb. (*W. Davison*). | Hume Coll. |
| *s*³. ♀ juv. sk. | Yeaboo, Attaran River, March (*W. D.*). | Hume Coll. |

| | | |
|---|---|---|
| $t^3$–$y^3$. ♂ ad. et juv.; $z^3$–$b^4$. ♀ ad. et juv. sk. | Mergui, June, Nov. Dec. (*W. D.*). | Hume Coll. |
| $c^4$–$h^4$. Imm. sk. | Amherst, Jan. to March and June (*W. D.*). | Hume Coll. |
| $i^4$. ♀ ad. sk. | Pakchan, Jan. (*W. D.*). | Hume Coll. |
| $k^4$. ♂ ad. sk. | Bankasoon, April (*W. D.*). | Hume Coll. |
| $l^4$, $m^4$, $n^4$. ♂ ad.; $o^4$. ♀ imm. sk. | Kossoum, May (*J. Darling*). | Hume Coll. |
| $p^4$–$w^4$. ♂ ad. et imm.: $x^4$. ♀ imm. sk. | Island of Tonka, Feb. to April, and July to Sept. (*J. Darling*). | Hume Coll. |
| $y^4$–$b^5$. Ad. et juv. sk. | Penang (*Dr. Cantor*). | India Museum. |
| $c^5$, $d^5$, $e^5$. ♂ ad. et imm.; $f^5$. ♀ ad. sk. | Klang, Salangore, Jan., Feb., Aug., Sept. (*W. D.*). | Hume Coll. |
| $g^5$. Ad.; $h^5$, $i^5$, $k^5$. Imm. sk. | Malacca. | Seebohm Coll. |
| $l^5$–$t^5$. Ad. et imm. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| $u^5$, $v^5$. Ad. sk. | Malacca, July (*W. D.*). | Hume Coll. |
| $w^5$, $x^5$. ♀ juv. sk. | Nealys, Oct. (*W. D.*). | Hume Coll. |
| $y^5$, $z^5$. ♂ ad. sk. | Gunnong Pulai, Johore, March, Sept. (*W. D.*). | Hume Coll. |
| $a^6$–$e^6$. ♂ ad. et juv.; $f^6$–$l^6$. ♀ ad. et juv. sk. | Singapore Island, Oct. to Feb. (*W. D.*). | Hume Coll. |
| $m^6$–$r^6$. Ad.; $s^6$, $t^6$. Juv. sk. | Sumatra (*C. Bock*). | Tweeddale Coll. |
| $u^6$. Ad. st. | Java. | Purchased. |
| $v^6$–$b^7$. Ad.; $c^7$, $d^7$. Imm. sk. | Java. | Wallace Coll. |
| $e^7$, $f^7$, $g^7$. Ad.; $h^7$, $i^7$. Juv. sk. | Java (*Horsfield*). | India Museum. |
| $k^7$. ♂ imm. sk. | Borneo. | Seebohm Coll. |
| $l^7$, $m^7$. Ad.; $n^7$, $o^7$, $p^7$. Imm. sk. | Sarawak (*A. H. Everett*). | Tweeddale Coll. |
| $q^7$. Ad. sk. | Lawas River. | J. Whitehead, Esq. [P.]. |
| $r^7$. Ad.; $s^7$–$v^7$. Imm. sk. | Lumbidan. | Governor Ussher [C.]. |
| $w^7$. Ad. sk. | Banjarmassing (*J. Motley*). | Wallace Coll. |
| $x^7$. Ad.; $y^7$–$b^8$. Imm. sk. | Amoy, Oct., Dec., May (*R. Swinhoe*). | Seebohm Coll. |
| $c^8$, $d^8$. Ad.; $e^8$. Juv. sk. | Hainan, Feb. (*R. Swinhoe*). | Seebohm Coll. |
| $f^8$. Juv. sk. | Manila (*Maitland Heriot*). | Tweeddale Coll. |
| $g^8$, $h^8$. ♂ ad.; $i^8$, $k^8$. Imm. sk. | Bohol, Oct., Nov. (*A. H. Everett*). | Tweeddale Coll. |
| $l^8$. ♂ ad. sk. | Monte Alban, March (*A. H. Everett*). | Tweeddale Coll. |
| $m^8$, $n^8$, $o^8$. ♂ ad. sk. | San Mateo, Jan., Feb. (*A. H. Everett*). | Tweeddale Coll. |
| $p^8$, $q^8$. ♂ ad.; $r^8$, $s^8$, $t^8$. ♀ imm. sk. | Zamboanga, April (*A. H. Everett*). | Tweeddale Coll. |
| $u^8$, $v^8$. ♂ ♀ imm. sk. | Basilan, May (*A. H. Everett*). | Tweeddale Coll. |
| $w^8$, $x^8$. Juv. sk. | Palawan, July. | J. Whitehead, Esq. [C.]. |
| $y^8$. ♂ ad. sk. | Puerto Princesa, Palawan, Dec. (*A. H. Everett*). | Tweeddale Coll. |

| | | |
|---|---|---|
| $z^8$. ♂ ad. sk. | Makassar (*A. R. Wallace*). | Tweeddale Coll. |
| $a^9$. Ad. sk. | Ternate. | Seebohm Coll. |
| $b^9$, $c^9$. Skeletons. | Java. | Purchased. |

### 3. Cacomantis variolosus.

Cuculus variolosus, *Horsf. Trans. Linn. Soc.* xv. p. 300 (1826); *Gray, Gen. B.* ii. p. 463 (1847).

Cuculus tymbonomus, *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 177 (1839–44); *Gray, Hand-l. B.* ii. p. 217, no. 9024 (1870); *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875); *Ramsay, Pr. Linn. Soc. N. S. Wales,* vii. p. 21 (1881); *id. Tab. List,* p. 15 (1888).

Cuculus dumetorum, *Gould, P. Z. S.* 1845, p. 19; *id. B. Austr.* iv. in text, pl. 87 (1848); *id. Intr. B. Austr.* p. 67 (1848); *Gray, Gen. B.* ii. p. 463 (1847); *Rchb. Vög. Neuholl.* ii. pp. 115, 309 (1850); *Gray, P. Z. S.* 1858, p. 195; *id. Cat. B. New Guin.* p. 60 (1859); *id. Hand-l. B.* ii. p. 217, no. 9031 (1870).

Cacomantis dumetorum, *Bp. Consp.* i. p. 103 (1850); *id. Consp. Vol. Zygod.* p. 6 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 24 (1862); *Gould, Handb. B. Austr.* i. p. 620 (1865); *Ramsay, Proc. Linn. Soc. N. S. Wales,* iii. p. 257 (1878), iv. p. 96 (1879); *Salvad, Ibis,* 1879, p. 321.

Cacomantis tymbonomus, *Bp. Consp.* i. p. 104 (1850); *id. Consp. Vol. Zygoa.* p. 6 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 22 (1862); *Wall. P. Z. S.* 1863, p. 484; *Finsch, Neu-Guin.* p. 159 (1865); *Wald. Tr. Z. S.* viii. p. 54 (1872); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 458 (1878); *D'Alb. & Salvad. op. cit.* xiv. p. 13 (1879); *Finsch, Vög. d. Südsee,* p. 15 (1884); *Guillemard, P. Z. S.* 1885, p. 551; *Salvad. Orn. Papuasia,* i. p. 340 (1880), Agg. p. 49 (1889).

*Adult male.* Somewhat similar to *C. merulinus*, but with the upper parts browner, with barely a trace of grey on the head and rump and none on the tail, which has an olive gloss: underparts pale ashy very slightly washed with rufous buff, under tail-coverts pale rufous buff: "bill black; the mandible paler; feet olive-yellow; iris whitish" (*D'Albertis*). Total length 8·5 inches, culmen 0·8, wing 4·8, tail 4·4, tarsus 0·7.

*Adult female.* Similar to the male in plumage.

*Hab.* Australia and Timor; New Guinea and the Molucca Islands.

| | | |
|---|---|---|
| *a*. Juv. sk. | Australia. | India Museum. (Type of species.) |
| *b*. Imm. sk. | Queensland. | Seebohm Coll. |
| *c*. Ad. sk. | Moreton Bay. | Tweeddale Coll. |
| *d*. Juv. sk. | Cape Upstart, May. | J. B. Jukes, Esq. [P.]. |
| *e*, *f*. Ad. sk. | Cape York (*Cockerell & Thorpe*). | Salvin-Godman Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | N.W. Australia (*W. H. Bowyer Bower*). | Capt. Bowyer Bower [P.]. |
| *i*. ♀ ad. sk. | Victoria River, N. W. Australia, Feb. | J. R. Elsey, Esq. [P.]. |
| *k*–*n*. Ad. et juv. sk. | E. Timor. | Wallace Coll. |

| | | |
|---|---|---|
| *o.* ♂ imm. sk. | Waigiou (*A. R. Wallace*). | Tweeddale Coll. |
| *p. q.* ♀ ad. et imm. sk. | Ternate (*A. R. Wallace*). | Tweeddale Coll. |
| *r, s.* Ad. et ♀ juv. sk. | Halmahera (*A. R. Wallace*). | Seebohm Coll. |

### 4. Cacomantis insperatus.

Cuculus insperatus, *Gould, P. Z. S.* 1845, p. 19; *id. B. Austr.* iv. pl. 87 (1846); *Gray, Gen. B.* ii. p. 463 (1847); *Rchb. Vög. Neuholl.* p. 114 (1849).

Cacomantis insperatus, *Bp. Consp.* i. p. 104 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 24, note (1862); *Gould, Handb. B. Austr.* i. p. 619 (1865); *Sclat. P. Z. S.* 1877, p. 106; *Finsch, P. Z. S.* 1879, p. 12; *Layard, Ibis*, 1880, p. 300.

Cuculus assimilis, *G. R. Gray, P. Z. S.* 1858, pp. 184, 195; *id. P. Z. S.* 1861, p. 437; *id. Hand-l. B.* ii. p. 217, no. 9026.

Cuculus (Cacomantis) tymbonomus (*nec Müll.*), *Gray, P. Z. S.* 1860, p. 359.

Cuculus (Cacomantis) sepulcralis, *Gray, t. c.* p. 359.

Cacomantis infaustus, *Cab. & Heine, Mus. Hein.* iv. p. 23 (1862); *Wald. Trans. Z. S.* viii. p. 54 (1872).

Cacomantis assimilis, *Gray, P. Z. S.* 1861, p. 437; *Cab. & Heine, Mus. Hein.* iv. p. 23 (1862); *Finsch, Neu-Guin.* p. 159 (pt., 1865); *Wald. Trans. Z. S.* viii. p. 54 (1872); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 492 (1877); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 458 (1878), xiv. p. 642 (1879); *id. Ibis*, 1879, p. 321; *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Pleske, Bull. Acad. Pétersb.* xxix. p. 524 (1884); *Salvad. Orn. Papuasia*, i. p. 337 (1889).

Cuculus infaustus, *Gray, Hand-l. B.* ii. p. 217, no. 9023 (1870).

Cacomantis sp. inc., *Sclat. P. Z. S.* 1879, p. 447.

Cacomantis tymbonomus (*nec Müll.*), *Grant, P. Z. S.* 1888, p. 191.

*Adult male.* Similar to *C. merulinus*, but with the upper parts darker and browner; the grey of the throat extending on to the breast, which is only partially washed with pale chestnut; under tail-coverts pale chestnut or cinnamon. Total length 8 inches, culmen 0·75, wing 4·4, tail 4·2, tarsus 0·65.

*Adult female.* Similar to the male in plumage.

*Hab.* New Guinea to New Britain and the Solomon Islands; the Aru group and Moluccas.

| | | |
|---|---|---|
| *a.* Imm. sk. | S.E. New Guinea (*Hunstein*). | Tweeddale Coll. |
| *b, c.* Ad. sk. | Fly River, New Guinea. | Seebohm Coll. |
| *d, e, f.* Ad. sk. | Port Moresby. | Seebohm Coll. |
| *g.* Ad. sk. | Astrolabe Mts. (*A. Goldie*). | Forbes Coll. |
| *h, i.* ♀ ad. sk. | New Britain, Feb. (*G. Brown*). | Tweeddale Coll. |
| *k.* ♂ ad. sk. | Blanche Bay, June (*G. E. Richards*). | Seebohm Coll. |
| *l, m, n.* Ad.; *o.* ♀ juv. sk. | Duke of York Island, Dec., March, Oct. | Rev. G. Brown [C.]. |
| *p.* ♂ ad. sk. | Duke of York Island, July 21 (*G. E. Richards*). | Seebohm Coll. |
| *q.* ♀ imm. sk. | Guadalcanar, Solomon Is., April 18. | C. M. Woodford, Esq. [C.]. |

| | | |
|---|---|---|
| *r*. ♀ ad. sk. | Aru Islands. | Wallace Coll. (Type of *C. assimilis*.) |
| *s*. ♂ ad. sk. | Salawati, June (*von Rosenberg*). | Tweeddale Coll. |
| *t, u*. ♂ ♀ ad. sk. | Mysol (*A. R. Wallace*). | Tweeddale Coll. |
| *v*. Ad. sk. | Waigiou (*A. R. Wallace*). | Seebohm Coll. |
| *w, x*. Ad. et juv. sk. | Morty Island (*A. R. Wallace*). | Tweeddale Coll. |
| *y, z, a'*. Ad. sk. | Ternate. | Seebohm Coll. |
| *b'*. Ad. sk. | Halmahera. | Seebohm Coll. |
| *c'–i'*. Ad. et juv. sk. | Batchian (*A. R. Wallace*). | Tweeddale Coll. |

### 5. Cacomantis virescens.

Cacomantis assimilis (*nec Gray*), *Wall. P. Z. S.* 1863, p. 23.
Cuculus sonnerati, pt., *Schl. Mus. Pays-Bas*, Cuculi, p. 25, note h (Ceram) (1864).
Cacomantis sepulcralis (*nec Müll.*), *Wald. Trans. Z. S.* viii. p. 116 (1872); *Meyer, Ibis*, 1879, p. 69.
Cuculus virescens, *Brüggeman, Abhandl. nat. Ver. Brem.* v. p. 59 (1876); *Salvad. Ann. Mus. Civ. Gen.* viii. p. 373 (1876).
Cacomantis æruginosus, *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 458 (1878); *id. Orn. Papuasia*, p. 336 (1880).

*Adult male*. Similar to *C. merulinus*, but differing in the upper parts being of a darker shade, though not brown as in *C. assimilis*; chin and upper half of the throat grey; remainder of the throat, breast, and under tail-coverts rich cinnamon-rufous slightly washed on the lower throat with grey. Total length 9·3 inches, culmen 0·65, wing 4·3, tail 5·4, tarsus 0·65.

*Hab*. Celebes and Bouru.

| | | |
|---|---|---|
| *a, b, c*. Ad. sk. | Menado. | Tweeddale Coll. |
| *d*. ♂ ad. sk. | Menado (*A. R. Wallace*). | Seebohm Coll. |
| *e*. Ad. sk. | N. Ceram. | Wallace Coll. |
| *f*. ♂ ad. sk. | Goram (*A. R. Wallace*). | Tweeddale Coll. |
| *g*. ♂ imm. sk. | Bouru (*A. R. Wallace*). | Seebohm Coll. |

### 6. Cacomantis castaneiventris.

Cacomantis castaneiventris, *Gould, Ann. & Mag. Nat. Hist.* (3) xx. p. 269 (1867); *id. B. Austr. Suppl.* pl. 57 (1867); *Wald. Tr. Z. S.* viii. p. 54 (1872); *Salvad. Ann. Mus. Civ. Gen.* vii. p. 915 (1875), xiii. p. 457; *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Meyer, Zeitschr. f. ges. Orn.* iii. p. 11 (1886); *Ramsay, Tab. List*, p. 15 (1888); *Salvad. Orn. Papuasia*, i. p. 334 (1880); *id. op. cit.* Agg. p. 48 (1889).
Cuculus castaneiventris, *Gray, Hand-l. B.* ii. p. 217, no. 9029 (1870).
Cacomantis assimilis, *Salvad.* (*nec Gray*), *Ann. Mus. Civ. Gen.* vii. p. 762 (1875); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iii. p. 256 (1878), iv. p. 96 (1879); *Salvad. Ibis*, 1879, p. 321.
Cacomantis sp., *Salvad. Ann. Mus. Civ. Gen.* ix. p. 16 (1876).
Cacomantis arfakianus, *Salvad. Agg. Orn. Papuasia*, i. p. 49 (1889).

*Adult* (type of species). Above deep slaty blue, with a slight olive gloss on the wings; a white patch on the pinion-joint; tail-feathers all tipped with white, and notched or partially barred with white on the inner webs; sides of head deep grey like the crown; underparts bright chestnut with the chin grey; under wing-coverts rufous, fading into white at the bend of the wing and becoming dusky brown near the quills; quills dusky brown, with a large white patch on the inner webs, forming a bar on the under surface of the wing. Total length 9 inches, culmen 0·7, wing 4·3, tail 4·9, tarsus 0·7.

The sexes are similar. An immature bird from New Guinea, no doubt belonging to this species, resembles *C. merulinus* in that plumage.

*Hab.* Northern Australia to New Guinea and the Aru Islands.

| | | |
|---|---|---|
| *a*. Ad. sk. | Cape York. | Gould Coll. (Type of species.) |
| *b*. Ad. sk. | New Guinea. | Gould Coll. |
| *c*, *d*. Ad. sk. | Astrolabe Mts., New Guinea (*A. Goldie*). | Forbes Coll. |
| *e*. Imm. sk. | Fly River, New Guinea. | Seebohm Coll. |
| *f*. Imm. sk. | Salawati (*A. R. Wallace*). | Tweeddale Coll. |

## 7. Cacomantis bronzinus.

Cuculus (Cacomantis) bronzinus, *Gray, P. Z. S.* 1859, p. 164.
Cuculus bronzinus, *Gray, Cat. B. Trop. Is.* p. 35 (1859); *Verr. & Des Murs, Rev. et Mag. Zool.* 1860, p. 391; *Gray, Hand-l. B.* ii. p. 217, no. 9028 (1870).
Cacomantis bronzinus, *Cab. & Heine, Mus. Hein.* iv. p. 26 (1862); *Layard, Ibis*, 1877, p. 362.

*Adult male.* Above deep slate-colour, with an olive gloss on the mantle and wings; a white patch on the pinion-joint; outer tail-coverts with a few marginal white spots, while a partial rufous edging is generally visible; tail-feathers all tipped with white and notched with white most strongly on their inner edges, these white marks gradually increasing towards the outer feathers, where they become more or less well-defined broad bars across the inner webs; sides of the head grey; underparts bright chestnut, often mottled with grey on the chin and throat; under wing-coverts rufous, fading into white at the bend of the wing and becoming dusky brown near the quills; quills dusky brown, with a large white patch on their inner webs forming a bar on the under surface of the wing: "bill dark horn colour; iris crimson; legs brown ochre" (*E. L. Layard*). Total length 9·7 inches, culmen 0·85, wing 5·5, tail 4·1, tarsus 0·8.

*Adult female.* Similar in plumage to the male: "iris red-brown" (*E. L. Layard*). Total length 10 inches, culmen 0·85, wing 5·5, tail 6, tarsus 0·8.

*Immature.* Differs from the adult in having the breast irregularly barred with white and brown.

*Hab.* New Caledonia.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*. ♀ ad. sk. | Noumea, New Caledonia, March, June, July (*E. L. Layard*). | Seebohm Coll. |
| *d*. ♂ ad.; *e*, *f*. ♀ ad. sk. | Moindu, Oct., Nov. (*E. L. Layard*). | Tweeddale Coll. |
| *g*, *h*. ♂ ad. sk. | Port de France, May, June (*J. McGillivray*). | Voy. H.M.S. 'Rattlesnake.' |
| *i*. Ad. sk. | New Caledonia (*J. McGillivray*). | Seebohm Coll. (Types of species.) |

### 8. Cacomantis simus.

Cuculus simus, *Peale, U. S. Expl. Exped.* p. 134, pl. 37. fig. 1 (1848); *Hartl. Arch. f. Naturg.* xviii. p. 106 (1852); *Cass. U. S. Expl. Exped.* p. 245, *Atlas*, pl. 21. fig. 2 (1858); *Gray, Cat. B. Trop. Is.* p. 35 (1859); *Layard, P. Z. S.* 1875, p. 426; *Ramsay, Proc. Linn. Soc. N. S. Wales*, i. p. 30 (1875); *Finsch, P. Z. S.* 1877, p. 729; *id. Rep. Voy.* '*Challenger*,' ii. p. 43 (1883).
Cacomantis simus, *Cab. & Heine, Mus. Hein.* iv. p. 25, note (1862).

*Adult male*. Very similar to *C. bronzinus*, but scarcely so large and with a decidedly broader and slightly shorter bill: "bill dark; iris coffee-colour; legs yellow" (*E. L. Layard*). Total length 10·3 inches, culmen 0·8, wing 5, tail 5·4.

*Adult female*. Similar to the male.

*Hab.* Fiji Islands and New Hebrides.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad.; *c*. ♀ juv. sk. | Rewa, Fiji Islands, Jan., Feb., March (*E. L. Layard*). | Tweeddale Coll. |
| *d*. ♂ ad. sk. | Bua (*E. L. Layard*). | Tweeddale Coll. |
| *e*. Ad. sk. | Kandavu. | Voy. H.M.S. 'Challenger.' |
| *f*. Ad. sk. | Taviuni (*E. L. Layard*). | Seebohm Coll. |
| *g*. Ad. sk. | Taviuni (*Liardet*). | Salvin-Godman Coll. |
| *h*. ♀ ad. sk. | Port Resolution, New Hebrides, Aug. (*J. McGillivray*). | Seebohm Coll. |

### 9. Cacomantis infuscatus.

Cuculus infuscatus, *Hartl. Ibis*, 1866, p. 172; *Finsch & Hartl. Faun. Centr. Polynesiens*, p. 31, pl. v. fig. 1 (1867); *Gray, Hand-l. B.* ii. p. 217, no. 9030.

*Male* (*nearly adult*). General plumage brownish black; head, neck, lower back, and tail darker than the mantle and wing, which are slightly glossed with olive; a white patch on the edge of the wing next to the median series of coverts; chin and throat brownish black; breast paler and rather more ashy, a few of the feathers with white bars; under surface of the wings dusky brown, with the greater portion of the coverts white, with some rather narrow dark bars; a large white patch on the inner webs of the quills forming a broad diagonal bar separated from the white spot on the first primary: "bill, upper mandible horny brown, lower one yellow; iris brown; legs yellow" (*E. L. Layard*). Total length 10·2 inches, culmen 0·75, wing, 4·9 tail 5·4, tarsus 0·8.

*Immature male*. Differs from the adult in having all the feathers

of the throat, body, and under tail-coverts with broad pale bars more or less washed with rufous, especially on the front of the chest; the outer tail-feather with about six distinct partial white bars on the inner web and a white end, this white end being also indicated on several of the other feathers; pale portion of the under wing-coverts washed with rufous.

The sexes are similar in plumage, and probably in a fully adult specimen there would be no pale bar on any feather.

*Hab.* Fiji Islands.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*. ♀ juv. sk. | Fiji Islands, April 8, 1877 (*Dr. R. Smith*). | Tweeddale Coll. |
| *c*. ♀ ad. sk. | Ovalau, Fiji Islands, April 22, 1874 (*E. L. Layard*). | Seebohm Coll. |
| *d*. ♀ juv. sk. | Taviuni, April 24, 1875 (*E. L. Layard*). | Tweeddale Coll. |
| *e*, *f*. ♂; *g*, *h*, *i*. ♀ imm. sk. | Wakaia, April, May (*E. L. Layard*). | Tweeddale Coll. |
| *k*. ♂ imm. sk. | Rewa, Jan. 1875 (*E. L. Layard*). | Tweeddale Coll. |

## 10. Cacomantis passerinus.

Cuculus passerinus, *Vahl, Skriv. af Natuur. Selsk.* iv. p. 57 (1797); *Schl. Mus. Pays-Bas*, Cuculi, p. 27 (1864); *Gr. Hand-l. B.* ii. p. 217, no. 9014 (1870).

Surniculus flavus, pt., mâle, *Less. Traité*, p. 152 (1831).

Cuculus flavus, *Jerd. Madr. Journ.* xi. p. 220.

Cuculus niger (*nec Linn.*), *Blyth, J. A. S. Beng.* 1842, pp. 798, 908, 1843, p. 240; *Gray, Gen. B.* ii. p. 463 (1847); *id. Cat. Mamm. etc. Nepal pres. Hodgs.* p. 120 (1846).

Cuculus tenuirostris, *Gray, Ill. Ind. Z.* ii. pl. 34. fig. 1 (1834); *Strickl. J. A. S. Beng.* 1844, p. 391, note; *Blyth, op. cit.* 1849, p. 805; *id. Cat. B. Mus. As. Soc.* p. 72 (1849); *Layard, Ann. & Mag. Nat. Hist.* xiii. p. 453 (1854).

Cuculus (Gymnopus) niger, *Blyth, Ann. & Mag. Nat. Hist.* 1843, p. 94.

Cuculus brevipennis, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 354. figs. 1, 2, 3 (nos. 689, 513); *id. in Gray's Zool. Misc.* p. 85 (1844).

Cuculus niger, var. pyrommatus, *Hodgs. t. c.* p. 85.

Cacomantis tenuirostris, *Bp. Consp. Vol. Zygod.* p. 7 (1854).

Polyphasia tenuirostris, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 698 (1856); *Jerd. Ibis*, 1872, p. 15.

Polyphasia niger, *Jerd. B. Ind.* i. p. 333 (1862).

Cacomantis passerinus, *Cab. & Heine, Mus. Hein.* iv. p. 18 (1862); *Ball, Str. F.* vii. p. 207 (1878); *Cripps, t. c.* p. 265; *Hume, op. cit.* viii. p. 89 (1879), ix. p. 55 (1880); *Butler, t. c.* p. 388; *Reid, op. cit.* x. p. 27 (1881); *Davidson, t. c.* p. 360.

Polyphasia passerina, *Jerd. Ibis*, 1872, pl. 1; *Holdsworth, P. Z. S.* 1872, p. 431; *Legge, Ibis*, 1875, p. 284.

Ololygon passerinus, *Hume, Nests & Eggs Ind. B.* p. 136 (1873); *Ball, Str. F.* 1874, p. 394; *Butler, op. cit.* 1875, p. 461; *Ball, op. cit.* 1876, p. 235; *Fairbank, t. c.* p. 255, 1877, p. 413.

*Adult male.* General plumage grey, darker on the upper surface, with an olive gloss on the mantle and wings; a white patch on the

primary joint; upper tail-coverts with some white on the sides of the outer feathers; tail-feathers blue-black with white ends, and with partial white bars on the inner web of most of the feathers, more strongly indicated on the outer ones; sides of the head and the underparts grey, passing into white on part of the thigh-coverts, the abdomen, and under tail-coverts; under wing-coverts grey, fading into white on the primary joint; quills brown, with a white patch on the inner webs of the primaries forming a diagonal band: "bill reddish black; legs and feet brownish yellow; iris red" (*E. A. Butler*). Total length 8·7 inches, culmen 0·7, wing 4·5, tail 4·5, tarsus 0·75.

*Adult female.* Similar in plumage to the male: "bill blackish; inside of mouth red; legs and feet reddish brown; iris light red" (*W. V. Legge*).

*Immature.* Upper half of the head, lower back, upper tail-coverts, and tail bright rufous without bars; upper back and wing-coverts barred with black; throat strongly washed with rufous; breast and under tail-coverts white barred with black; under wing-coverts white, more narrowly barred with black; under surface of the quills with a diagonal pale bar shaded with rufous.

The Museum Collection contains some interesting varieties; three of these have no white on the pinion-joint, two have no white on the abdomen and under tail-coverts, and in one the white on the quills is absent, and the tail is uniform blackish with very slightly paler ends to some of the feathers. That these specimens are mere varieties cannot be doubted, and the most striking of them has been figured as *Polyphasia passerina* (Ibis, 1872, fig. 1, upper figure).

*Hab.* Indian Peninsula; Java; Sumatra.

| | | |
|---|---|---|
| *a–g*. Ad. et imm. sk. | Ceylon, Feb., April (*S. Chapman & H. Nevill*). | Tweeddale Coll. |
| *h*. ♂ ad.; *i*. ♀ imm. sk. | Colombo. | Hume Coll. |
| *k–p*. Ad. et imm. sk. | Kandy (*A. Whyte*). | Seebohm Coll. |
| *q, r, s*. Ad. sk. | Newara Ellia. | E. Boate, Esq. [C.]. |
| *t*. ♂ ad. sk. | Dyatura, Feb. | Col. Legge [P.]. |
| *u*. ♀ ad. sk. | Tumgalla, Feb. | Col. Legge [P.]. |
| *v, w, x*. Ad.; *y*. Juv. sk. | Malabar. | Tweeddale Coll. |
| *z*. Ad. sk. | Western Ghats. | Gould Coll. |
| *a'*. Ad.; *b'*. ♀ juv. sk. | Coonoor Ghat, April, Sept., (*R. G. W. R.*). | Tweeddale Coll. |
| *c'–h'*. Ad. et imm. sk. | Kotagherry, May, June, Sept., Oct. (*Miss Cockburn*). | Hume Coll. |
| *i'*. Ad. sk. | Mysore, May. | Hume Coll. |
| *k'*. ♀ ad.; *l'*. Juv. sk. | Madras (*Jerdon*). | |
| *m'–q'*. ♂ ad. sk. | Belgaum, April, June, July (*E. A. Butler*). | Hume Coll. |
| *r'*. ♂ ad. sk. | Vingorla, S. Konkan, Feb. (*G. Vidal*). | Hume Coll. |

| | | |
|---|---|---|
| *s'*. Ad. sk. | Mahableshwar, May (*S. B. Fairbank*). | Hume Coll. |
| *t'*. Ad. sk. | Mathèran, Nov. | Hume Coll. |
| *u'*. ♀ ad. sk. | Seoni, Central Provinces. | Hume Coll. |
| *v'*. Ad. sk. | Jubbulpur District. | Hume Coll. |
| *w'–d''*. Ad. et imm. sk | Raipur, May (*F. Blewitt*). | Hume Coll. |
| *e''*. ♂ juv. sk. | Sonapur. | Hume Coll. |
| *f''–i''*. Ad. et juv. sk. | Mount Aboo, June, July. | Hume Coll. |
| *k''*. Imm. sk. | Kangra. | Pinwill Coll. |
| *l''*, *m''*, *n''*. Ad. et juv. sk. | Simla (*S. Pinwill*). | Tweeddale Coll. |
| *o''*, *p''*, *q''*. Ad. et juv. sk. | Simla, May. | Hume Coll. |
| *r''*. ♂ ad. sk. | Bareilly, May. | Hume Coll. |
| *s''–v''*. Ad.; *w''–z''*. Imm. sk. | Nepal. | Hodgson Coll. |
| *a*$^3$, *b*$^3$, *c*$^3$. Ad.; *d*$^3$, *e*$^3$. Imm. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *f*$^3$, *g*$^3$, *h*$^3$. Ad. et juv. sk. | Native Sikhim, May, July, Aug. (*L. Mandelli*). | Hume Coll. |
| *i*$^3$–*p*$^3$. Ad. et juv. sk. | Sikhim, May, July–Sept. (*L. Mandelli*). | Hume Coll. |
| *q*$^3$–*t*$^3$. Ad. et imm. sk. | Darjiling, April, June. | Hume Coll. |
| *u*$^3$. Ad. sk. | Dacca, March. | Hume Coll. |
| *v*$^3$. Juv. sk. | Sumatra (*C. Bock*). | Tweeddale Coll. |
| *w*$^3$. Ad. sk. | Java. | Forbes Coll. |
| *x*$^3$. Bones of trunk. | Nepal. | Hodgson Coll. |

## 9. MISOCALIUS.

Type.

Misocalius, *Cab. Mus. Hein.* iv. p. 16, note ..... M. palliolatus.
Nisocalius, *Gray, Hand-l. B.* ii. p. 218, no. 2233 .... M. palliolatus.

*Range.* Australia, Aru, Ké, and Batchian Islands.

### 1. Misocalius palliolatus.

Tipped Cuckow, *Lath. Suppl.* ii. p. 138 (1801).
Cuculus palliolatus, *Lath. Ind. Orn. Suppl.* p. 30 (1801); *Steph. Gen. Zool.* ix. p. 112 (1815); *Vieill. N. Dict.* viii. p. 237 (1817); *id. Enc. Méth.* p. 1337 (1823); *Gray, Gen. B.* ii. p. 463 (1847); *id. Hand-l. B.* ii. p. 218, no. 9033.
Cuculus flavus, jeune mâle, *Less. Traité*, p. 152 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 69.
Chalcites osculans, *Gould, P. Z. S.* 1847, p. 32; *id. B. Austr.* iv. pl. 88 (1848); *Rchb. Vög. Neuholl.* ii. p. 116 (1849); *Bp. Consp. Vol. Zygod.* p. 7 (1854).
Cuculus osculans, *Gray, Gen. B.* ii. p. 463 (1847).
Chrysococcyx osculans, *Gould, Introd. B. Austr.* p. 67 (1848).
Misocalius palliolatus, *Cab. & Heine, Mus. Hein.* iv. p. 16, note (1862); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 459 (1878); *id. Orn. Papuasia*, p. 344 (1880).

*Adult.* Ashy brown with an olive shade, slightly darker and greyer on the crown, back of neck, nape, and decidedly paler and more ashy on the lower back and upper tail-coverts; quills dark brown, with narrow pale edges: outermost upper tail-coverts with broad white marginal ends, and some faint bars mostly on their outer webs; all the tail-feathers with broad whitish ends, and five other distinct white bars on the inner webs of the outer pair, while similar bars are partially traceable on the penultimate ones; on the sides of the head a broad white eyebrow, and a black band through the eye comprising the ear-coverts; under surface of body rufous-buff, fading into white on the abdomen, thighs, and under tail-coverts, the flanks with almost obsolete dusky bars; under tail-coverts with three or four dusky brown bars; under wing-coverts and a broad basal margin to the inner webs of the quills rufous-buff: bill blackish; irides greyish black; tarsus in front and toes above greenish grey, back of the tarsus and soles of the feet pinker. Total length 7·6 inches, culmen 0·65, wing 4·7, tail 3·8, tarsus 0·7.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Cape York. | Salvin-Godman Coll. |
| *c*. Ad. sk. | New South Wales. | Gould Coll. |
| *d*. Ad. sk. | S. Australia (*G. F. Angas*). | Gould Coll. |

## 10. CHRYSOCOCCYX.

| | Type. |
|---|---|
| Chrysococcyx, *Boie*, *Isis*, 1827, p. 977 | C. cupreus. |
| Chalcites, *Less. Traité Orn.* p. 152 (1831) | C. cupreus. |
| Lampromorpha, *Vig. P. Z. S.* 1831, p. 92 | C. cupreus. |
| Lamprococcyx, *Cab. Mus. Hein.* iv. p. 11 (1862) | C. cupreus. |

*Range.* Confined to Tropical and South Africa.

*Key to the Species.*

*a*. With yellow on the under surface.
  *a'*. Breast yellow; entire throat brilliant emerald-green like the upper parts ..... *smaragdineus*, p. 280.
  *b'*. Yellow colour confined to the throat, which ends in a broad green pectoral collar .... *flavigularis*, p. 282.
*b*. With no portion of the plumage yellow; throat white or nearly so.
  *c'*. Tail with three outer pairs of feathers almost entirely white; the green of the neck extending as a patch on the sides of the crop ..... *klaasi*, p. 283.
  *d'*. Tail with less white; sides of crop uniform with the breast ..... *cupreus*, p. 285.

### 1. Chrysococcyx smaragdineus.

Cuculus cupreus (*nec Bodd.*), *Shaw*, *Mus. Lever.* p. 157 (1792); *Vieill. Gal. Ois.* i. p. 33, pl. 42 (1825); *Grill*, *Zool. Anteckn.* p. 42 (1858).

Chalcites cupreus, *Rüpp. Neue Wirb.*, *Vög.* p. 62 (1835).

Chalcites smaragdineus, *Swains. B. W. Afr.* ii. p. 191 (1837); *Layard, B. S. Afr.* p. 251 (1867); *Verr. Rev. et Mag. Zool.* 1851, p. 259.
Chrysococcyx cupreus, *Rüpp. Syst. Uebers.* p. 96 (1845); *Cab. & Heine, Mus. Hein.* iv. p. 8 (1862).
Cuculus smaragdinensis, *Gray, Gen. B.* ii. p. 463 (1847).
Cuculus splendidus, *Gray, Gen. B.* ii. p. 464 (1847); *id. Hand-l. B.* ii. p. 218, no. 9035.
Chrysococcyx smaragdineus, *Bp. Consp.* i. p. 105 (1850); *Strickl. Contr. Orn.* 1851, p. 135; *Verr. Rev. et Mag. Zool.* 1851, p. 259; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 705 (1856–58); *Hartl. Orn. W.-Afr.* p. 191 (1857); *Gurney, Ibis*, 1859, p. 246; *Cass. Proc. Ac. Philad.* 1859, p. 142; *Cab. & Heine, Mus. Hein.* iv. p. 10 (1862); *Dohrn, P. Z. S.* 1866, p. 329; *Sharpe, Ibis*, 1870, p. 58; *Heugl. Orn. N.O.-Afr.* pp. 774, clxi (1871); *Sharpe, Cat. Afr. B.* p. 13 (1871); *Ussher, Ibis*, 1874, p. 53; *Bocage, Orn. Angola*, p. 142 (1877); *Oust. N. Arch. Mus.* (2) ii. p. 126 (1879); *Salvad. Ann. Mus. Civ. Gen.* (2) i. p. 75 (1884); *Fischer, J. f. O.* 1885, p. 124; *Reichen. J. f. O.* 1887, pp. 302, 308; *Salvad. Ann. Mus. Civ. Gen.* (2) vi. p. 32 (1888); *Shelley, Ibis*, 1890, p. 169.
Chalcites intermedius, *Verr. Rev. et Mag. Zool.* 1851, p. 259.
Chrysococcyx intermedius, *Hartl. Orn. W.-Afr.* p. 191 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 8 (1862).
Cuculus smaragdineus, *Schl. Mus. Pays-Bas*, Cuculi, p. 29; *Gray, Hand-l. B.* ii. p. 218, no. 9035 (1870); *Sharpe, P. Z. S.* 1873, p. 588; *id. ed. Layard's B. S. Afr.* pp. 151, 809 (1875–84); *Shelley, Ibis*, 1875, p. 83.
Cuculus intermedius, *Gray, Hand-l. B.* ii. p. 218, no. 9036 (1870).
Chrysococcyx splendidus, *Sharpe, Cat. Afr. B.* p. 13 (1871).

*Adult male.* Entire head, neck, front of the chest, and upper parts brilliant metallic emerald-green; remainder of the body lemon-yellow, the under tail-coverts boldly barred with metallic green; the four centre tail-feathers uniform green, the remainder with white ends and with about four broad white bars on the outermost feathers; these white bars are variable in number and breadth, and are only indicated on the penultimate feathers; under wing-coverts yellowish white, with a broad metallic green edging to the wing; quills dusky brown, glossed with metallic green towards their ends, and with broad white basal margins forming a large white centre to the wing: bill greyish olive, shading into black near the tip and sides of the mouth; iris brown; legs olive-grey. Total length 8·6 inches, culmen 0·7, wing 4·4, tail 4·7, tarsus 07.

*Adult female.* Different from the male. Crown, primary-coverts, and quills dark brown, the latter partially barred with rufous; back and remainder of the wings rufous, each feather broadly barred with metallic green; two centre tail-feathers metallic bronze, passing into green and fiery copper towards their ends; the remaining feathers with white ends; the next pair from the centre are dark brown, the three outer pairs white, with a broad subterminal black bar and with two or more dark bars on their inner webs, generally on a rufous ground; sides of the head and the underparts white, with wavy metallic green bars; under wing-coverts like the breast; under surface of the quills brown, barred on their inner webs

with white partially tinted with rufous. Total length 8 inches, culmen 0·6, wing 4·2, tail 3·4, tarsus 0·7.

*Nestling.* Above alternately barred with rufous and metallic green, except on the rump and tail; upper tail-coverts dark brown barred with rufous; centre tail-feathers nearly black, broadly washed on their edges with fiery copper; remainder of the tail white, washed with rufous and having some black bands; beneath white barred with coppery brown: bill yellow. Total length 3·9 inches.

*Young.* Differs from the nestling in having a greater amount of green both above and below; the feathers of the head and underparts have broad metallic green ends, a white bar, and their bases dusky black. Total length 4·5 inches.

The last signs of immaturity in the males are the bars on the under wing-coverts, though the bars on the breast remain for a long time. On comparing West-African skins with South-African ones, the former generally have the breast rather darker yellow, the tail slightly longer, and the white bars on the outer tail-feathers broader and less numerous.

The type of *Cuculus splendidus*, Gray, is an adult male which has lost its two pairs of outer tail-feathers, and has the breast bleached to white, which often occurs when specimens of this species have been exposed to light.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | West Africa. | Purchased. |
| *b*. ♂ ad. sk. | River Gambia. | Sharpe Coll. |
| *c–f*. ♂ ad.; *g k*. ♀ ad. et imm. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *l o*. ♂ ad.; *p*. ♀ ad. sk. | Gold Coast (*H. T. Ussher*). | Shelley Coll. |
| *q, r*. Juv. sk. | Cameroons Mountains. | Sharpe Coll. |
| *s, t, u*. ♂ ad. sk. | Gaboon (*Walker*). | Sharpe Coll. |
| *v*. ♂ ad. sk. | Ogowè River. | H. T. Ansell, Esq. [P.]. |
| *w*. ♂ ad. sk. | Angola. | Monteiro Coll. |
| *x, y*. ♂ Ad. sk. | Natal. | Dr. Gueinzius [C.]. |
| *z*. ♂ juv. sk. | Natal (*Ayres*). | Sharpe Coll. |
| *a'*, *b'*. ♂ ad. sk. | Durban, Nov. (*Gordge*). | Shelley Coll. |
| *c'*. ♂ ad. sk. | South Africa. | L. Melville, Esq. [P.]. (Type of *C. splendidus*.) |
| *d'*, *e'*. ♂ ♀ ad. sk. | South Africa (*Layard*). | Sharpe Coll. |

## 2. Chrysococcyx flavigularis.

Chrysococcyx flavigularis, *Shelley, P. Z. S.* 1879, p. 679, pl. 50.

*Adult* (type of species). Entire upper parts, as well as the sides of the head and neck, golden green, with a very strong shade of copper- or lilac-bronze; two centre tail-feathers uniform fiery copper, the next pair dark brown glossed with fiery copper, with white ends and a broad white outer margin to the basal three

quarters of the outer webs; the remaining three pairs of outer tail-feathers white, with a broad subterminal bar of blackish bronze; quills dark brown, glossed with fiery copper, most strongly so on the outer webs; the inner webs of the quills buff for about three quarters of their length, this colour forming partial bars or notches in the brown of the quills; chin and throat bright yellow, with the sides and a few feathers on the middle of the crop golden green; remainder of the under surface of the body, the thighs, and the under tail-coverts brownish buff, each feather with some four or five wavy narrow bars of bronze; under wing-coverts buff, similarly marked; bill yellow, shaded with horn-colour towards the base; legs apparently dark olive, with the soles of the feet yellow. Total length 6 inches, culmen 0·7, wing 3·8, tail 2·8, tarsus 0·6.

*Hab.* W. Africa, Elmina on the Gold Coast.

The typical specimen is in the Stuttgart Museum.

### 3. Chrysococcyx klaasi.

Le Coucou de Klaas, *Levaill. Ois. d'Afr.* v. p. 53, pl. 212 (1806); *Sunder. Krit. om Levaill.* p. 47 (1858).

Cuculus klaasi, *Steph. Gen. Zool.* ix. p. 128 (1815); *Vieill. Enc. Méth.* p. 1333 (1823); *Schl. Mus. Pays-Bas*, Cuculi, p. 30 (1864); *Gray, Hand-l. B.* ii. p. 218, no. 9039 (1870); *Sharpe, P. Z. S.* 1873, p. 592; *Shelley, Ibis*, 1875, p. 83; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 52 (1876); *Sharpe, ed. Layard's B. S. Afr.* p. 155 (1875–84); *id. Journ. Linn. Soc., Zool.* xvii. p. 433 (1884).

Chalcites klasii, *Less. Traité Orn.* p. 153 (1831); *Swains. B. W. Afr.* ii. p. 189, pl. 21 (1837).

Chrysococcyx clasii, *Rüpp. Syst. Uebers.* p. 96 (1845).

Chrysococcyx klasii, *Blyth, Cat. B. Mus. A. S.* p. 73 (1849).

Chrysococcyx klaasi, *Bp. Consp.* i. p. 105 (1850); *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 270; *Hartl. J. f. O.* 1861, p. 265; *Finsch, J. f. O.* 1867, p. 248; *Bianc. Spec. Zool. Mosamb.* p. 327 (1867); *Finsch & Hartl. Vög. Ost-Afr.* p. 520 (1870); *Blanf. Geol. & Zool. Abyss.* p. 314 (1870); *Sharpe, Ibis*, 1870, p. 58; *Gurney in Anderss. B. Damara-Ld.* p. 229 (1872); *Reichen. J. f. O.* 1875, p. 5; *Bocage, Orn. Angola*, p. 144 (1877); *Nicholson, P. Z. S.* 1878, p. 131; *Cab. J. f. O.* 1878, p. 237; *Oust. Bull. Nouv. Arch. Mus.* 1879, p. 59; *Büttik. Notes Leyd. Mus.* x. p. 96 (1888); *Shelley, Ibis*, 1890, p. 168.

Chrysococcyx klasi, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 705 (1856–58).

Chrysococcyx claasi, *Hartl. Orn. W.-Afr.* p. 190 (1857); *Gurney, Ibis*, 1859, p. 247; *Heugl. J. f. O.* 1864, p. 265; *Heugl. Orn. N.O.-Afr.* pp. 778, clxi (1871); *Ussher, Ibis*, 1874, p. 53; *Fischer & Reichen. J. f. O.* 1879, p. 342; *Fischer, Zeitschr. ges. Orn.* 1884, p. 367; *id. J. f. O.* 1885, p. 342.

Lamprococcyx klaasi, *Cab. & Heine, Mus. Hein.* iv. p. 12 (1862); *Heine, J. f. O.* 1863, p. 350; *Oust. Bull. Soc. Philom.* (7) i. p. 106 (1877); *Salvad. Ann. Mus. Civ. Gen.* (2) i. p. 33 (1888).

Lamprococcyx resplendens, *Heine, J. f. O.* 1863, p. 350.

Chalcites klaasii, *Layard, B. S. Afr.* p. 250 (1867).

Chrysococcyx resplendens, *Reichen. J. f. O.* 1877, p. 17.

*Adult male.* Above, as well as the sides of the head and sides of the neck, uniform deep metallic green, often partially shaded with lilac; a partial white eyebrow extending over the ear-coverts; quills dark brown, washed on their outer webs with metallic green and on their inner ones notched with white; four centre tail-feathers uniform green like the back, the outer three pairs white with a large subterminal green spot on their outer webs, their inner webs having generally a few broad black bars, the third from the outside having that web more boldly marked and with nearly the entire basal half black; under surface of body snow-white, the green sides of the neck advancing in a patch on the sides of the fore neck; the front half of the long thigh-coverts metallic green; under wing-coverts white with a few dusky bars; quills dusky black, with white triangular notches to their inner webs not reaching to the shafts: irides brown; bill and legs dusky. Total length 6·2 inches, culmen 0·6, wing 3·8, tail 3, tarsus 0·65.

*Adult female.* Sides and upper half of the head and neck brown; a white spot barred with brown behind the eye and over the ear-coverts; back brown, obscurely barred with rufous and metallic bronze or green; wing-coverts, scapulars, and secondaries with alternate bars of metallic green and rufous; quills dark brown, notched with rufous on both webs, forming incomplete bars; outer tail-coverts with some white on their outer webs; four centre tail-feathers brownish bronze, with broad metallic fiery copper or green ends, the next pair have their inner webs rufous instead of white as in the males: beneath buffy white, narrowly barred with dark brown zigzag lines; the brown sides of the neck advancing in a patch on the sides of the fore neck; the front half of the long thigh-coverts with concentric bands of bronze and rufous. Total length 6·4 inches, culmen 0·6, wing 3·7, tail 3, tarsus 0·65.

*Immature male.* Somewhat resembles the adult female, but differs in the crown and back being alternately barred with metallic green and rufous; the sides of the head, neck, and lateral patch on the chest rufous-white barred with brownish bronze, and the under-parts generally white, more irregularly barred with brownish bronze.

*Hab.* The whole of Tropical Africa.

| | | |
|---|---|---|
| *a*, *b*. Ad. et imm. sk. | Senegambia. | Sharpe Coll. |
| *c*, *d*, *e*. ♂ ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *f*, *g*. ♂ ad. sk. | Denkera, Jan. (*H. T. Blissett*). | Sharpe Coll. |
| *h*. ♂ ad. sk. | Gold Coast (*Aubinn*). | Shelley Coll. |
| *i*. ♂ ad. sk. | Cameroons, Feb. 2, 1871 (*A. Crossley*). | Sharpe Coll. |
| *k*. ♂ juv. sk. | Gaboon. | M. Verreaux. |
| *l*. ♀ ad. st. | Gaboon. | M. Verreaux. |
| *m*. ♂ ad. sk. | Semmio, Niam-Niam Country, March. | F. Bohndorff [C.]. |

| | | |
|---|---|---|
| *n*. Ad. sk. | Abyssinia. | Purchased. |
| *o*. ♂ ad. sk. | Island of Mombasa, July 1876. | Dr. J. M. Hildebrandt [C.]. |
| *p*. ♂ ad. sk. | Lamu, E. Africa, Aug. 24. | F. J. Jackson, Esq. |
| *q*. Ad. sk. | Tete, Zambesi. | Sir John Kirk [C.]. |
| *r*. Imm. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *s*, *t*. Ad. sk. | Transvaal. | Seebohm Coll. |
| *u*, *v*. Ad.; *w*, *x*. Juv. sk. | Natal (*T. Ayres*). | Sharpe Coll. |
| *y*–*c'*. Ad. et imm. sk. | Durban, Natal (*T. L. Ayres*). | Shelley Coll. |
| *d'*, *e'*. ♂ ad. sk. | Pinetown, March (*G. E. S.*). | Shelley Coll. |
| *f'*. ♂ ad. sk. | Eland's Post (*T. C. Atmore*). | Shelley Coll. |
| *g'*, *h'*. Ad. et juv. sk. | South Africa (*E. L. Layard*). | Shelley Coll. |
| *i'*. ♂ ad. sk. | Damara-Land, March 29 (*C. J. Andersson*). | Tweeddale Coll. |
| *k'*. ♂ ad. st. | South Africa. | Dr. Lee [P.]. |
| *l'*. Skeleton. | West Africa. | Purchased. |

## 4. Chrysococcyx cupreus.

Le Coucou vert doré et blanc, *Buff. Hist. Nat. Ois.* vi. p. 385 (1879)..

Coucou vert du Cap de Bonne Espérance, *Montb. Pl. Enl.* vi. pl. 657 (1780).

Gilded Cuckow, *Lath. Gen. Syn.* i. p. 527 (1782).

Cuculus cupreus, *Bodd. Tabl. Pl. Enl.* p. 40 (1783); *Vieill. Enc. Méth.* p. 1332 (1823); *Drap. Dict. Class. Sc. Nat.* p. 142 (1838); *Schl. Mus. Pays-Bas*, Cuculi, p. 31 (1864); *Gray, Hand-l. B.* ii. p. 218, no. 9037 (1870); *Sharpe, P. Z. S.* 1873, p. 591; *Buckley, Ibis*, 1874, p. 367; *Shelley, Ibis*, 1875, p. 83; *Barratt, Ibis*, 1876, p. 199; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 51 (1876).

Cuculus auratus, *Gm. Syst. Nat.* i. p. 421 (1788); *Vieill. Enc. Méth.* p. 1337 (1823); *Temm. Tabl. Méth.* p. 52 (1838); *Drap. Dict. Sc. Nat.* p. 142 (1838); *Thienem. Abbild. Vogeleiern*, pl. 15. fig. 4 (1845–56); *Grill, Zool. Anteckn.* p. 43 (1858).

Le Coucou Didric, *Levaill. Ois. d'Afr.* v. p. 46, pls. 210, 211; *Sunder. Krit. om Levaill.* p. 47 (1858).

Lampromorpha chalcopepla, *Vig. P. Z. S.* 1831, p. 92.

Chalcites auratus, *Less. Traité*, p. 153 (1831); *Swains. B. W. Afr.* ii. p. 187 (1837); *Mont. Ibis*, 1862, p. 337; *Layard, B. S. Afr.* p. 250 (1867); *Gurney, Ibis*, 1868, p. 163.

Cuculus chalcopeplus, *Gray, Gen. B.* ii. p. 463 (1847).

Chrysococcyx auratus, *Bp. Consp.* i. p. 105 (1850); *Hartl. Orn. W.-Afr.* p. 190 (1857); *Gurney, Ibis*, 1859, p. 247; *Mont. P. Z. S.* 1865, p. 94; *Antin. Cat. descr. Ucc.* p. 84 (1865); *Hartl. P. Z. S.* 1867, p. 826; *Bocage, Jorn. Lisb.* i. p. 143 (1867); *Gurney, Ibis*, 1868, p. 467; *Sharpe, Ibis*, 1870, p. 58.

Chrysococcyx cupreus, *Blyth, Cat. B. M. As. S.* p. 72 (1852); *Heugl. Peterm. Mitth.* 1861, p. 26; *Cab. & Heine, Mus. Hein.* iv. p. 8 (1862); *Finsch & Hartl. Vög. Ost-Afr.* p. 522 (1870); *Blanf. Geol. & Zool. Abyss.* p. 313 (1870); *Sharpe, P. Z. S.* 1870, p. 145, 1871, p. 605; *Heugl. Orn. N.O.-Afr.* pp. 776, clxi (1871); *Shelley,*

*B. Egypt*, p. 163 (1872); *Gurney in Anderss. B. Damara-Ld.* p. 228 (1872); *Ayres, Ibis*, 1874, p. 103; *Reichen. J. f. O.* 1875, p. 6; *Bocage, Orn. Angola*, p. 143 (1877); *Reichen. J. f. O.* 1877, p. 17; *Ayres, Ibis*, 1878, p. 407; *Cab. J. f. O.* 1878, p. 237; *Fisch. & Reichen. t. c.* p. 252; *Oust. Bull. Nouv. Arch. Mus.* 1879, p. 59; *Ayres, Ibis*, 1879, p. 297, 1880, p. 262; *Shelley, P. Z. S.* 1881, p. 594; *id. Ibis*, 1882, p. 245; *Böhm, J. f. O.* 1882, p. 165; *Schalow, t. c.* p. 346; *Sharpe, ed. Layard's B. S. Afr.* pp. 153, 809 (1875–84); *Ayres, Ibis*, 1884, p. 224; *Fisch. Zeitschr. ges. Orn.* 1884, p. 367; *Ayres, Ibis*, 1885, p. 343; *Böhm, J. f. O.* 1885, p. 41; *Fisch. t. c.* p. 124; *Büttik. Notes Leyd. Mus.* vii. p. 225 (1885); *Ayres, Ibis*, 1886, p. 291; *Büttik. Notes Leyd. Mus.* viii. p. 264 (1886); *Symonds, Ibis*, 1887, p. 328; *Bocage, Jorn. Lisb.* 1887, p. 2; *Reichen. J. f. O.* 1887, p. 58; *Shelley, P. Z. S.* 1888, p. 42.

Lamprococcyx cupreus, *Cab. & Heine, Mus. Hein.* iv. p. 11 (1862); *Oust. Bull. Soc. Phil.* (7) i. p. 106 (1877).

Lamprococcyx chrysochlorus, *Cab. & Heine, Mus. Hein.* iv. p. 11 (1862); *Salvad. Ann. Mus. Civ. Gen.* (2) i. p. 92 (1884), vi. p. 213 (1888).

Lamprococcyx chrysites, *Heine, J. f. O.* 1863, p. 350.

Chalcites cupreus, *Kirk, Ibis*, 1864, p. 327.

Cuculus chrysites, *Gray, Hand-l. B.* ii. p. 218, no. 9040.

Cuculus chrysochlorus, *Gray, t. c.* no. 9041.

*Adult male.* Above metallic green, shot with a coppery gloss principally on the mantle; a white band down the centre of the forehead and front of the crown; a broad white eyebrow interrupted just over the eye; wing-coverts mottled with white, mostly towards the centre portion; quills black glossed with metallic green, with three or four large white partial bars on their inner webs, and three distinct white spots on the outer webs of the secondaries, indicated rather as notches on a few of the outer primaries; tail-coverts with broad white ends to their outer webs; tail of a slightly bluer shade than the back, and with white ends to all of the feathers; all but the centre pair with white spots, most numerous on the outer ones, where they form partial bars; ear-coverts, a band under the eye, and a narrow moustachial stripe metallic green; remainder of the cheeks, throat, and body white, with broad dusky bronze bars on the sides of the breast and the under tail-coverts, occasionally extending on to the centre of the chest; under surface of the wings brownish black, the coverts mottled and barred with white, the quills broadly banded with white across the inner webs of the feathers: bill black; iris dark red; legs brownish black. Total length 7·5 inches, culmen 0·6, wing 4·6, tarsus 0·7.

*Adult female.* Very similar to the male, but more shaded above with coppery bronze than with green; the white markings on the quills partially shaded with rufous, and many of the tail-feathers barred with that colour; the throat and front of the chest often shaded with rufous.

*Nestling.* Upper half of the head uniform rufous; remainder of the upper parts rufous, sparingly barred with dusky brown and shaded with metallic green; a few white marks on the wing-coverts;

the quills dark brown barred with rufous; upper tail-coverts more glossed with green and with large white ends to the outer webs of the feathers; tail dark brown, with rufous and a few white bars, and white tips to some of the feathers; beneath white, striped on the throat and spotted on the breast with bronzy brown: bill yellow. Total length 4·4 inches.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. Imm. sk. | West Africa. | L. Fraser, Esq. [C.]. |
| *b*. Ad. sk. | River Gambia. | Sharpe Coll. |
| *c*. Juv. sk. | Casamanse. | J. Verreaux. |
| *d*. Ad.; *e*. Juv. sk. | Gold Coast, Jan., April, May. | Shelley Coll. |
| *f*. Ad. sk. | Ashanti. | J. Gould, Esq. |
| *g–n*. Ad.; *o*, *p*, *q*. Imm. sk. | Fantee, Aug., Dec. (*H. T. Ussher*). | Sharpe Coll. |
| *r*, *s*. Ad. sk. | Connor's Hill, Cape Coast Castle, March (*G. E. S.*). | Shelley Coll. |
| *t*, *u*, *v*. Ad.; *w*, *x*, *y*. Imm. sk. | Abeokuta (*H. Robin*). | F. Nicholson, Esq. [P.]. |
| *z*. Ad. sk. | Cameroons Mountains, Feb. (*Crossley*). | Sharpe Coll. |
| *a'–d'*. Ad. sk. | Gaboon. | Sharpe Coll. |
| *e'*. ♂ ad. sk. | Anseba Valley, Bogos-Land, July. | W. T. Blanford, Esq. [C.]. |
| *f'*. ♂ ad. sk. | Bejook, July (*W. Jesse*). | Tweeddale Coll. |
| *g'*. ♂ ad. sk. | Kagima, Shoa, Jan. (*O. Antinori*). | Shelley Coll. |
| *h'*. ♂ ad. sk. | Redjaf, Equatorial Africa, May. | Emin Pasha [C.]. |
| *i'*. ♀ imm. sk. | Kiri, May 24. | Emin Pasha [P.]. |
| *k'*. Ad. sk. | Lamu Island, E. Africa, August. | F. J. Jackson, Esq. [P.]. |
| *l'*. Ad. sk. | Lamu (*Sir J. Kirk*). | Shelley Coll. |
| *m'*, *n'*, *o'*. Ad.; *p'*. Imm. sk. | Usambara Mountains, Pangani River (*Sir J. Kirk*). | Shelley Coll. |
| *q'*. Imm. sk. | Zanzibar (*Sir J. Kirk*). | Sharpe Coll. |
| *r'*. ♀ juv. sk. | Zanzibar, Sept. | Dr. J. M. Hildebrandt [C.]. |
| *s'*, *t'*. Ad. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *u'*. Imm. sk. | Zambesi (*Dr. Meller*). | Tweeddale Coll. |
| *v'*. Ad. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *w'*. ♂ ad. sk. | Bamangwato, Oct. (*T. E. Buckley*). | Shelley Coll. |
| *x'*. ♀ ad. sk. | Crocodile River, Transvaal, Nov. (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *y'*. ♀ ad. sk. | Limpopo River, Nov. (*T. E. Buckley*). | Shelley Coll. |
| *z'*, *a''*. Imm. sk. | Rustenberg. | F. A. Barratt, Esq. [P.]. |
| *b''*. Ad. sk. | Potchefstroom. | F. A. Barratt, Esq. [P.]. |
| *c''*, *d''*. ♂ ad. sk. | Transvaal (*Ayres*). | Sharpe Coll. |
| *e''*, *f''*. Ad.; ♀ juv. sk. | Natal, March (*Arnold*). | Seebohm Coll. |
| *g''*, *h''*. Ad. sk. | Pretoria (*Pratt*). | Seebohm Coll. |

| | | |
|---|---|---|
| *i''*. Ad. sk. | Fort Beaufort. | Sharpe Coll. |
| *k''*, *l''*. Ad.; *m''*. Imm. st. | South Africa. | |
| *n''*. Ad. sk. | Knysna, Dec. (*C. J. Anderson*). | Tweeddale Coll. |
| *o''*. Ad. sk. | Damara-Land (*C. J. A.*). | Sharpe Coll. |
| *p''*, *q''*. Ad. et juv. sk. | Angola (*Monteiro*). | Sharpe Coll. |
| *r''*. ♂ ad. sk. | Katenbella, Benguela, Dec. (*Sala*). | Sharpe Coll. |

## 11. CHALCOCOCCYX.

Type.

Chalcococcyx, *Cab. Mus. Hein.* iv. p. 15 (1862) .. *C. xanthorhynchus.*

*Range.* Indian Peninsula and Ceylon to the Burmese Countries and the Malayan Peninsula, throughout the whole of the Malayan Archipelago to Australia and New Zealand.

### *Key to the Species.*

*a*. Bill yellow; breast regularly barred; throat barred (in the females and young).
  *a'*. Throat and upper parts violet ..... *xanthorhynchus*, p. 289.
  *b'*. Throat and upper parts green ..... *maculatus*, p. 291.
*b*. Bill not yellow.
  *c'*. Basal half of quills rufous ..... *meyeri*, p. 293.
  *d'*. Quills brown; never more than margined with rufous.
    *a''*. Under wing-coverts barred. (Adults.)
      *a'''*. Basal two-thirds of tail rufous, with the exception of the inner and outer feathers ..... *basalis*, p. 294.
      *b'''*. Basal half of tail never uniform rufous.
        *a*⁴. With no rufous edges to the quills and with less rufous on the under surface of the wings and outer pair of tail-feathers.
          *a*⁵. Larger: wing not less than 4 inches.
            *a*⁶. Breast-bands bright green. Crown green like the back; forehead freckled with white.
              *a*⁷. Bill wider. Slightly larger. *lucidus*, p. 295.
              *b*⁷. Bill narrower. Slightly smaller ..... *poliurus*, p. 296.
            *b*⁶. Breast-bands coppery bronze; crown and back of neck purplish bronze, contrasting with the green back; forehead less freckled with white ..... *plagosus*, p. 297.
          *b*⁵. Smaller: wing not more than 3·8 inches. Breast-band coppery bronze: forehead stongly freckled with white ..... *malayanus*, p. 298.

$b^4$. With narrow rufous edges to the quills, and more rufous on the under surface of the wings and outer pair of tail-feathers.
$c^5$. With scarcely any rufous shade on the throat ..... *pœcilurus*, p. 299.
$d^5$. Throat strongly washed with rufous ..... *ruficollis*, p. 300.
$b''$. Under wing-coverts uniform white. (Young of preceding species.)
$c''$. With no white on the upper wing-coverts.
$c'''$. With rufous edges to the primaries.. *pœciluroides*, p. 301.
$d'''$. With no rufous edges to the primaries ..... *misorensis*, p. 301.
$d''$. With a white patch on the upper wing-coverts ..... *crassirostris*, p. 302.

## 1. Chalcococcyx xanthorhynchus.

Cuculus xanthorhynchus, *Horsf. Tr. Linn. Soc.* xiii. p. 179 (1822); *id. Zool. Res. Java*, pl. 59 (1824); *Vig. Mem. Raffl.* p. 672 (1830); *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 234 (1839–44); *Blyth, J. A. S. Beng.* xi. p. 919 (1842); *Schl. Mus. Pays-Bas*, Cuculi, p. 32 (1864); *Gray, Hand-l. B.* ii. p. 219, no. 9040 (1870); *Sharpe, Ibis*, 1879, p. 244.

Lampromorpha amethystina, *Vig. P. Z. S.* 1831, p. 98.

Chrysococcyx xanthorhynchus, *Blyth, J. A. S. Beng.* xi. p. 919 (1842), xii. p. 245 (1843); *Blyth, Cat. B. Mus. As. Soc.* p. 73 (1849); *Bp. Consp.* i. p. 106 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 706 (1856–58); *Scl. P. Z. S.* 1863, p. 209; *Salvad. Ucc. Borneo*, p. 62 (1874); *Wald. Ibis*, 1874, p. 137; *Hume, Str. F.* iii. p. 472 (1874); *Blyth & Wald. B. Burma*, p. 80 (1875); *Tweedd. Ibis*, 1877, p. 287; *Wardlaw Ramsay, Ibis*, 1877, p. 458; *Hume, Str. F.* vi. p. 506 (1878), viii. pp. 54, 89 (1879); *Sharpe, P. Z. S.* 1879, p. 327; *Hume, Str. F.* ix. p. 248 (1880); *Sharpe, P. Z. S.* 1881, p. 792; *Oates, Handb. B. Br. Burm.* ii. p. 114 (1883); *Büttik. Notes Leyden Mus.* 1886, p. 27; *Sharpe, Ibis*, 1888, p. 198, 1890, p. 9; *Whitehead, t. c.* p. 46.

Lampromorpha xanthorhynchus, *Bp. Consp. Vol. Zygod.* p. 7 (1854).

Chalcococcyx xanthorhynchus, *Cab. & Heine, Mus. Hein.* iv. p. 15 (1862); *Hume, Str. F.* ii. p. 191 (1874), iii. p. 81 (1875); *Hume & Davis. Str. F.* vi. pp. 161, 506 (1878).

Chalcococcyx amethystinus, *Wald. Tr. Z. S.* ix. pp. 160, 250 (1875).

Chalcites xanthorhynchus, *Gould, B. Asia*, vi. pl. 47 (1877).

Chrysococcyx limborgi, *Tweedd. P. Z. S.* 1877, p. 366; *id. Str. F.* vii. p. 319 (1878); *Hume, Str. F.* viii. p. 89 (1879); *Bingham, Str. F.* ix. p. 168 (1880); *Oates, Handb. B. Br. Burm.* ii. p. 116 (1883).

*Adult male.* Upper parts as well as the entire head and neck uniform metallic violet; quills brownish black, edged with the same colour as the back; tail above like the back, the outer pair of feathers with three partial white bars and white tips, the next two pairs with much smaller white ends, which in some specimens are absent; breast, under wing-coverts, and under tail-coverts white, with broad metallic bars varying from violet to greenish blue;

under surface of the quills dark brown, with some white on the basal portion of the inner webs of some of the feathers; these white marks sometimes entirely absent: "bill orange-yellow; iris red, eyelids green, the edges red; mouth orange; legs greenish brown; claws black" (*E. W. Oates*). Total length 6·5 inches, culmen 0·65, wing 4, tail 3, tarsus 0·6.

*Adult female.* Above coppery bronze shaded with green, and with somewhat obscure rufous edges to most of the feathers of the wing; sides of the head and eyebrows white, barred with black; forehead partially mottled with these colours; remainder of the crown and back of the neck nearly uniform dark brown; centre pair of tail-feathers nearly uniform fiery bronze, passing into green towards their ends; remainder of the feathers rufous, barred with black, and the outer web and tip of the exterior pair blotched with white; underparts, including the under wing-coverts, white, regularly barred with bronzy brown, passing into black on the under tail-coverts; under surface of the quills brown, with broad inner margins of buff, passing into white near the base of the feathers. Total length 6·6 inches, culmen 0·65, wing 3·9, tail 2·8, tarsus 0·55.

*Young.* Above rufous; back of the neck, back, and wing-coverts barred with metallic green; quills greenish brown, edged with rufous; two centre tail-feathers metallic green, tipped with rufous, remainder rufous, barred with black and tipped with white and with some white bars on the outer feathers; beneath white, barred with bronze; bill yellowish brown. Total length 5·6 inches.

Males on first assuming the metallic plumage are irregularly blotched with both metallic green and violet. The type of *C. limborgi*, Tweeddale, only differs from typical full adult males in having a broad band of white across the back of the neck, which I attribute to partial albinism.

*Hab.* From Siam and Assam through the Burmese countries and the Malayan Peninsula to Java, Sumatra, Borneo, and the islands of the Bay of Bengal.

| | | |
|---|---|---|
| *a.* Ad. sk. | Java (*Horsfield*). | India Museum. (Type of species.) |
| *b, c.* Ad. sk. | Labuan. | Sir Hugh Low [C.]. |
| *d, e.* Ad.; *f, g, h.* Imm. sk. | Sarawak. | A. H. Everett, Esq. [C.]. |
| *i.* Imm. sk. | Trusan, March. | A. H. Everett, Esq. [C.]. |
| *k.* Ad. sk. | Banjarmassing (*J. Motley*). | Tweeddale Coll. |
| *l.* ♂ ad. sk. | Sumatra. | Wallace Coll. |
| *m.* Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *n, o.* Ad. et imm. sk. | Malacca, Jan., March (*W. Davison*). | Hume Coll. |
| *p, q, r.* Ad.; *s, t, u.* Imm. sk. | Malacca. | Hume Coll. |
| *v.* ♀ imm. sk. | Pulo Seban, Oct. (*W. Davison*). | Hume Coll. |
| *w, x.* Ad.; *y, z, a'.* Imm. sk. | Klang, Salangore, March, Sept. (*W. Davison*). | Hume Coll. |

| | | |
|---|---|---|
| *b'*. Ad. sk. | Penang (*R. Swinhoe*). | Seebohm Coll. |
| *c'*. Ad. sk. | Perak Mountains. | L. Wray, Esq. [P.]. |
| *d'*. ♀ imm. sk. | Island of Girbee, Sept. (*J. Darling*). | Hume Coll. |
| *e'*. Imm. sk. | Nicobars. | Tweeddale Coll. |
| *f'*, *g'*. ♂ ad. et imm. sk. | South Andamans, Aug. (*R. J. Wimberley*). | Hume Coll. |
| *h'*. ♀ ad. sk. | South Andamans, May (*R. G. W. R.*). | Tweeddale Coll. |
| *i'*, *k'*. ♂ ♀ ad. sk. | Port Blair, July (*R. J. Wimberley*). | Tweeddale Coll. |
| *l'*. ♀ ad. sk. | North Bay, S. Andamans. | Hume Coll. |
| *m'*. ♂ ad. sk. | Bankasoon, S. Tenasserim, April 22 (*W. Davison*). | Hume Coll. |
| *n'*, *o'*. ♂ ♀ ad. sk. | Tavoy, April (*W. D.*). | Hume Coll. |
| *p'*. ♂ ad. sk. | Amherst, March (*W. D.*). | Hume Coll. |
| *q'*. ♂ ad. sk. | Houngthraw River, Jan. (*W. Limborg*). | Tweeddale Coll. (Type of *C. limborgi*.) |
| *r'*. ♂ imm. sk. | Kanee, Jan. (*W. D.*). | Hume Coll. |
| *s'*. ♀ ad. sk. | Meplaychoung, Thoungyeen River, March (*C. T. Bingham*). | Hume Coll. |
| *t'*, *u'*. Imm. sk. | Moulmein, Oct., Dec. (*W. D.*). | Hume Coll. |
| *v'*. Ad. sk. | Siam. | Hume Coll. |
| *w'*–*d''*. ♂ ad. et imm.; *e''*–*l''*. ♀ ad. et imm. sk. | Pegu, Aug., Sept., Oct., Dec., Jan. (*E. W. O.*). | Oates Coll. |
| *m''*. ♂ ad. sk. | Karen-nee (1600 feet), March (*R. G. W. R.*) | Tweeddale Coll. |
| *n''*, *o''*. ♂ ♀ ad. sk. | Cachar, Aug. (*J. Inglis*). | Hume Coll. |
| *p''*, *q''*. ♂ ♀ ad. sk. | Dibrughur, July, Aug. (*J. R. Cripps*). | Hume Coll. |

## 2. Chalcococcyx maculatus.

Spotted Curucui, *Brown, Ill. Zool.* pl. 13 (1776).
Trogon maculatus, *Gm. Syst. Nat.* i. p. 404 (1788, *ex Brown*).
Cuculus lucidus (*nec Gm.*), *Blyth, J. A. S. Beng.* xi. p. 917 (1842).
Chrysococcyx lucidus, *Blyth, J. A. S. Beng.* xi. p. 917 (1842), xiii. p. 390 (1844).
Chalcites xanthorhynchus (*nec Horsf.*), *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 539 (figs. 515, 516); *id. in Gray's Zool. Misc.* p. 85.
Chrysococcyx smaragdinus (*nec Sw.*), *Blyth, J. A. S. Beng.* xv. p. 53 (1846).
Chrysococcyx xanthorhynchus, *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 20 (1846).
Cuculus malayanus (*nec Raffl.*), *Gray, Gen. B.* ii. pl. 117 (1847).
Chrysococcyx plagosus (*nec Lath.*), *Bp. Consp.* i. p. 106 (1850).
Lampromorphus plagosus, *Bp. Consp. Vol. Zygod.* p. 7 (1854).
Chrysococcyx hodgsoni, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 705 (1856–58); *Jerd. B. India*, i. p. 338 (1862); *Swinh. P. Z. S.* 1871, p. 394; *Davis. Str. F.* x. p. 299 (1881).
Lamprococcyx smaragdinus, *Cab. & Heine, Mus. Hein.* iv. p. 13, note (1862).
Chrysococcyx schomburgki, *Gould, P. Z. S.* 1864, p. 73.
Cuculus hodgsoni, *Schl. Mus. Pays-Bas*, Cuculi, p. 32 (1864).

Lamprococcyx maculatus, *Wald. Ibis*, 1869, p. 334; *Holdsworth, P. Z. S.* 1872, p. 432; *Hume, Str. F.* viii. pp. 161, 502 (1878); *Salvad. Ann. Mus. Civ. Gen.* p. 581 (1887).
Cuculus schomburgki, *Gray, Hand-l. B.* ii. p. 219, no. 9045.
Cuculus smaragdinus, *Gray, l. c.* no. 9050.
Chalcococcyx smaragdinus, *Hume & Davis. Str. F.* i. p. 422 (1873).
Chrysococcyx maculatus, *Blyth & Wald. B. Burma*, p. 80 (1875); *Wald. Ibis*, 1876, p. 345; *Wardlaw Ramsay, Ibis*, 1877, p. 458; *Hume, Str. F.* viii. pp. 89, 155 (1879); *Bingham, Str. F.* ix. p. 167 (1880); *Hume, t. c.* p. 248; *Oates, Handb. B. Br. Burm.* ii. p. 113 (1883); *Büttik. Notes Leyden Mus.* 1886, p. 26.
Chalcites hodgsoni, *Gould, B. Asia*, vi. pl. 46 (1877).
Cuculus maculatus, *Legge, B. Ceylon*, p. 238 (1880).

*Adult male.* Above metallic green, mottled with copper and with a bluish shade at the ends of the quills; outer tail-feathers with three broad partial bands and the ends white, the next pair with narrower white tips; entire head and throat metallic green like the upper parts; breast alternately barred with white and metallic coppery green; under tail-coverts greener, with narrower white bands; under wing-coverts barred with metallic green and white, and with a dusky patch next to the quills; under surface of the quills dusky brown, with a white patch on the inner web of most of them, forming a band on the under surface of the wing: bill yellow, tipped with black; irides reddish brown; legs reddish brown. Total length 6·8 inches, culmen 0·6, wing 4·5, tail 3, tarsus 0·6.

*Adult female.* Crown and back of the neck rufous, mottled about the forehead with zigzag bars of dark brown and white; back, wings, and tail metallic green, much shaded with copper, the edges of the quills washed with the same shades; two centre tail-feathers metallic green, ending in a broad band of fiery copper, the next pair metallic with four or five rufous triangular patches on their outer webs extending to the shafts of the feathers; the remainder of the tail-feathers are mostly rufous barred with metallic green, the two outer pairs tipped with white and the outermost one also broadly barred with white on the outer web; under surface, including the wing-coverts, alternately barred with white and copper; the pale portion of the quills partially shaded with rufous.

*Young male.* Differs from the full-plumaged male in having the throat barred like the breast and in often having the sides of the head and front of the crown barred with white. They are distinguished from the female by the absence of rufous on the head, throat, wings, tail.

*Hab.* From Naini Tal to the Eastern Himalaya, through the Burmese countries and the Malayan Peninsula to Sumatra.

| | | |
|---|---|---|
| *a.* Ad. sk. | Himalayas. | Gould Coll. |
| *b.* Ad.; *c, d.* Imm. sk. | Naini Tal, May, Oct. | Hume Coll. |
| *e.* Imm. sk. | Kaladoongi, Dhoon, Sept. 29. | Hume Coll. |
| *f, g.* Ad.; *h, i, k.* Imm. sk. | Nepal. | Hodgson Coll. |
| *l, m.* Ad.; *n.* Imm. sk. | Native Sikhim, April, May, Aug. (*L. Mandelli*). | Hume Coll. |

| | | |
|---|---|---|
| *o–u*. Ad.; *v–y*. Imm. sk. | Sikhim, Feb. to May, Aug., Oct., Nov. (*L. Mandelli*). | Hume Coll. |
| *z–e'*. Ad.; *f'–k'*. Imm. sk. | Darjeeling, April. | Hume Coll. |
| *l'–m'*. Imm. sk. | Darjeeling. | Tweeddale Coll. |
| *n'*. Ad. sk. | Lower Hills, Bhutan Doars, April (*L. Mandelli*). | Hume Coll. |
| *o'*. ♂ ad. sk. | N. Khasia Hills, March (*A. W. Chennell*). | Tweeddale Coll. |
| *p'–u'*. ♂ ad.; *v'*, *w'*. ♂ ♀ imm. sk. | Dibrughur, April to June, Aug. (*J. R. Cripps*). | Hume Coll. |
| *x'*, *y'*. ♂ ♀ juv. sk. | Cachar, June (*J. Inglis*). | Hume Coll. |
| *z'*. ♂ imm. sk. | Prome, Pegu. | Oates Coll. |
| *a''*, *b''*. Ad. sk. | Tonghoo. | Tweeddale Coll. |
| *c''*. ♂ ad. sk. | Karen Hills, March 29 (*R. G. W. R.*). | Tweeddale Coll. |
| *d''*. Ad. sk. | Siam (*Schomburgk*). | Gould Coll. |
| *e''*. ♀ imm. sk. | Assoon, Tenasserim, Feb. 5 (*W. Limborg*). | Tweeddale Coll. |
| *f''*, *g''*. ♂ ♀ ad. sk. | Mooleyit, Jan., Feb. (*W. Davison*). | Hume Coll. |
| *h''*, *i''*. ♂ imm.; *k''*. ♀ ad. sk. | Meetan, Feb. (*W. Davison*). | Hume Coll. |
| *l''*. ♂ ad. sk. | Meplay, Thoungyeen valley, Feb. (*C. T. Bingham*). | Hume Coll. |
| *m''*. ♂ sk. | Thoungsha Gyne, March 10 (*W. Davison*). | Hume Coll. |
| *n''*. ♂ ad. sk. | Sumatra, Nov. (*C. Bock*). | Tweeddale Coll. |
| *o''*. Bones of trunk. | Nepal. | Hodgson Coll. |

### 3. Chalcococcyx meyeri.

Chrysococcyx splendidus (*nec Gray*), *Meyer, Sitzb. k. Akad. Wissensch. Wien*, lxix. p. 81 (1874); *Sclat. Ibis*, 1874, p. 416.

Chrysococcyx meyeri, *Salvad. Ann. Mus. Civ. Genov.* vi. p. 82 (1874); *Beccari, Ann. Mus. Civ. Genov.* vii. p. 715 (1875); *Salvad. t. c.* p. 762; *Beccari, Ibis*, 1876, p. 253; *Guillem. P. Z. S.* 1885, p. 625.

Lamprococcyx meyeri, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 912 (1874), x. p. 124 (1877), xiii. p. 459 (1878); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iii. p. 256 (1878), iv. p. 96 (1879); *Salvad. Ibis*, 1879, p. 321; *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Salvad. Orn. Papuasia*, i. p. 346 (1880), iii. p. 521 (1882), App. p. 49 (1889).

Chalcites meyeri, *Gould, B. New Guin.* pt. v. pl. 12 (1877).

*Adult male.* Above bright metallic green shaded with coppery bronze, mottled behind the ear-coverts with a few partially white feathers; quills rufous on both webs, passing into dark brown on the terminal half of the feathers, and gradually passing into coppery green on the innermost secondaries; tail brownish black, all the feathers glossed with greenish bronze and with pale ends; the two centre feathers brightest and with the pale ends scarcely visible except from beneath; the remainder of the tail-feathers with white tips to the inner webs, and the outermost pair of all having in

addition three white spots on the inner webs, with their outer webs irregularly notched with white; underparts white, regularly banded with coppery bronze, shaded with green; under wing-coverts like the breast, only with narrower bars: "bill and iris black; legs dusky grey" (*A. Goldie*). Total length 5 inches, culmen 0·6, wing 3·5, tail 2·75, tarsus 0·55.

*Adult female.* Differs only from the male in having the forehead and front half of the crown bright chestnut.

*Hab.* New Guinea.

| | | | |
|---|---|---|---|
| *a*. Ad. sk. | Astrolabe Mts., New Guinea. | A. Goldie [C.]. |
| *b*. Ad. sk. | Sogere Distr., S.E. New Guinea. | H. O. Forbes, Esq. [C.]. |

### 4. Chalcococcyx basalis.

Cuculus basalis, *Horsf. Tr. Linn. Soc.* xiii. p. 179 (1821); *Vig. Mem. Raffl.* p. 672 (1830); *Gray, Gen. B.* ii. p. 463 (1847); *id. Hand-l. B.* p. 218, no. 9038 (1870).

Chrysococcyx chalcites (*nec Ill.*), *Blyth, J. A. S. Beng.* xi. p. 919 (1842).

Chrysococcyx lucidus (*nec Gm.*), *Gould, B. Austr.* iv. pl. 86, pt. fig. ♀ et juv. (1848).

Chrysococcyx basalis, *Blyth, Cat. B. Mus. As. Soc.* p. 73 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 107 (1856–58).

Chalcites basalis, *Bp. Consp. Vol. Zygod.* p. 7 (1854); *Hume, Str. F.* iii. p. 319 (1875); *Ramsay, Pr. Linn. Soc. N. S. Wales,* (2) ii. p. 170 (1887).

Lamprococcyx basalis, *Cab. & Heine, Mus. Hein.* iv. p. 12 (1862); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 459 (1878); *id. Orn. Papuasia,* i. p. 349 (1880), App. p. 49 (1889).

Cuculus lucidus, *Schl. Mus. Pays-Bas,* Cuculi, p. 33 (pt., 1864).

? Cuculus neglectus, *Schl. Mus. Pays-Bas,* Cuculi, p. 35 (1864); *Gray, Hand-l. B.* ii. p. 219, no. 9045 (1870).

*Adult male.* Upper parts brown, strongly glossed with metallic green on the mantle, wings, and tail; feathers of the wings with narrow pale brown or white edges; tail with the two centre feathers brown strongly washed with metallic green, all the remainder of the feathers having a white terminal spot on their inner webs and a subterminal dark bar; outer feather blackish, with six broad white bars across the inner web, and a similar number of notches on the outer web; the next three pairs having their basal three quarters uniform rufous, with the remainder dusky greenish brown above and ashy beneath, with two spots of white very distinct on the inner webs; sides of the head with a broad white eyebrow; ear-coverts brown; remainder of the plumage white, shaded and mottled with pale brown on the sides and base of the throat; breast barred on the sides with brown; under tail-coverts with a few large brown shaft-spots; under wing-coverts white, barred with brown like the sides of the body; under surface of the quills brown, with a patch of white near the shaft of the first primary, and a large marginal one on the inner webs of the

remainder. Total length 6·3 inches, culmen 0·55, wing 4, tail 3, tarsus 0·7.

*Adult female.* Similar to the male in plumage. Total length 6·7 inches, culmen 0·55, wing 4, tail 2·9, tarsus 0·7.

*Hab.* Australia, Aru Islands, Timor, Flores, Lombock, Java; re-occurring in Malacca.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Singapore, July (*H. Kelham*). | Hume Coll. |
| *b.* Ad. sk. | Java (*Horsfield*). | India Museum. |
| *c.* ♀ ad. sk. | Lombock (*Wallace*). | Gould Coll. |
| *d.* ♀ ad. sk. | Australia (*G. Fradgley*). | India Museum. |
| *e.* Ad. sk. | Australia. | Seebohm Coll. |
| *f.* Ad. sk. | North Australia. | Purchased. |
| *g, h.* Ad. sk. | Cape York. | Salvin-Godman Coll. |
| *i.* ♂ ad. sk. | Moreton Bay, July (*F. Strange*). | Gould Coll. |
| *k.* Ad. sk. | River Darling (*Dr. Pechey*). | Gould Coll. |
| *l, m, n.* Ad.; *o.* Juv. sk. | South Australia. | Gould Coll. |
| *p.* Ad. sk. | Murray River. | C. D. E. Fortnum, Esq. [P.]. |
| *q.* Ad. sk | Melbourne. | Seebohm Coll. |
| *r.* Juv. sk. | Tasmania. | Gould Coll. |
| *s.* Ad. sk. | Tasmania. | Antarctic Expedition. |

### 5. Chalcococcyx lucidus.

Shining Cuckoo, *Lath. Gen. Syn.* ii. p. 528, pl. 23 (1782).
Cuculus lucidus, *Gm. Syst. Nat.* i. p. 421 (1788); *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 30 (1826); *Temm. Pl. Col.* iii. pl. 102. fig. 1 (1824); *id. Tabl. Méth.* p. 52 (1838); *Gray, Hand-l. B.* ii. p. 218, no. 9042 (1870).
Variable Warbler, *Lath. Gen. Syn. Suppl.* ii. p. 250 (1801).
Sylvia versicolor, *Lath. Ind. Orn.* ii. *Suppl.* p. 56 (1801).
Cuculus metallicus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 302 (1827).
Chalcites lucidus, *Less. Traité*, p. 153 (1831); *Bp. Consp. Vol. Zygod.* p. 7 (1854).
Cuculus nitens, *Forst. Descr. Anim.* p. 151 (1844).
Cuculus versicolor, *Gray, Gen. B.* ii. p. 463 (1847).
Cuculus chalcites, *Ill. in Mus. Berol.*; *Temm. Tabl. Méth.* p. 52 (1838).
Chrysococcyx lucidus, *Bp. Consp. Av.* i. p. 106 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 706 (1856–58); *Finsch, Neu-Guin.* p. 159 (1865); *Buller, B. New Zealand*, p. 77 (1873), 2nd ed. i. p. 132, pl. 15 (1888).
Chrysococcyx chalcites, *Licht. Nomencl. Av.* p. 78 (1854).
Lamprococcyx lucidus, *Cab. & Heine, Mus. Hein.* iv. p. 14 (1862).

*Adult male.* Upper parts bright metallic green, changing in certain lights into purplish copper, especially on the crown and back of the neck; quills brown, glossed with more fiery copper than the back; forehead partially mottled with white; upper tail-coverts with white bars on the outer web of the outer feathers; tail above metallic coppery green, with a dark subterminal spot on each of the feathers, followed on the inner web by a white spot,

which is absent on the centre pair of feathers ; outer pair of feathers with broad white ends and four or five partial white bars, the next pair having two rufous blotches on the inner web ; sides of the head and neck white, mottled with brown ; throat and entire under surface of the body white, barred with coppery bronze with green reflexions ; under wing-coverts like the breast ; under surface of the quills dusky brown, with broad white bases to most of the inner webs forming a bar across the wing ; under surface of the tail ashy instead of metallic, with the white and rufous markings much more sharply defined : iris brown ; bill blue-black ; feet slate-colour. Total length 6·5 inches, culmen 0·6, wing 4, tail 3, tarsus 0·65.

*Adult female.* Similar in plumage to the male. Total length 6·3 inches, culmen 0·6, wing 4·2, tail 3, tarsus 0·6.

*Hab.* Eastern Australia and New Zealand, as well as the Chatham Islands.

| | | |
|---|---|---|
| *a*. Ad. st. ; *b*. Ad. sk. | New Zealand. | Sir G. Grey [P.]. |
| *c*, *d*. Ad. sk. | New Zealand. | Tweeddale Coll. |
| *e*, *f*. Ad. sk. | New Zealand. | Seebohm Coll. |
| *g*, *h*. ♂ ♀ ad. sk. | New Zealand (*F. Strange*). | Capt. Stokes [P.]. |
| *i*. ♂ ad. sk. | Dunedin, New Zealand, December. | J. White, Esq. [P.]. |
| *k*, *l*. Ad. sk. | Chatham Island. | Colonial Museum, Wellington [P.]. |
| *m*. Ad. sk. | Australia. | Gould Coll. |
| *n*. ♂ ad. sk. | Banks' Peninsula, December. | Seebohm Coll. |
| *o*, *p*, *q*. Ad. sk. | Cape York (*Cockerell & Thorpe*). | Tweeddale Coll. |

### 6. Chalcococcyx poliurus.

Lamprococcyx pœciluroides (*nec Salvad.*), *Meyer, Zeitschr. ges. Orn.* 1886, p. 33.

Lamprococcyx poliurus, *Salvad. Orn. Papuasia, App.* p. 49 (1889).

*Adult.* Above golden green ; forehead varied with white ; sides of the head and the throat varied with dusky ; fore neck white, with irregular dusky bands glossed with green ; remainder of under surface white, with transverse bands of shining green ; under wing-coverts white with blackish bars ; wing beneath with a white patch at the base of the quills ; tail above glossy green, with a subterminal dark band : beneath grey, the outer feather having on the basal part of the outer web four white spots, and five on the inner web alternating with four black spots ; the next feather grey beneath, with the base and end black, and the inner web spotted with four but slightly conspicuous white spots ; the next two pairs more uniform, but with a white spot at the end of the inner webs : bill blackish ; feet lead-colour. Total length 6·1 inches, culmen 0·6, wing 4, tail 2·6, tarsus 0·7. (*Salvadori.*)

*Hab.* Island of Tarawai, New Guinea.

### 7. Chalcococcyx plagosus.

Cuculus plagosus, *Lath. Ind. Orn.* ii. *Suppl.* p. 31 (1801); *Vieill. Nouv. Dict.* xiii. p. 238 (1817); *id. Enc. Méth.* p. 1332 (1823); *Gray, Gen. B.* ii. p. 463 (1847).
Cuculus lucidus, *Temm.* (*nec Gm.*), *Pl. Col.* 102. fig. 1 (1824).
Cuculus chalcites, *Illig., in Mus. Berol.*; *Temm. Pl. Col.* 102. fig. 2 (1824); *Less. Traité*, p. 153 (1831); *Gray, Gen. B.* ii. p. 463 (1847).
Cuculus metallicus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 302 (1826); *Gray, Gen. B.* ii. p. 463 (1847).
Chrysococcyx lucidus, *Blyth, J. A. S. Beng.* xv. p. 54 (1846); *id. Cat. B. Mus. As. Soc.* p. 73 (1849); *Gould, B. Austr.* iv. pl. 89, centre fig. (1848); *id. Introdr. B. Austr.* p. 67 (1848); *Rchb. Vög. Neuholl.* ii. p. 117 (1849); *Macgill. Voy. 'Rattlesnake,'* ii. p. 357 (1852); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 706 (1856); *Sclat. P. Z. S.* 1879, p. 447.
Cuculus versicolor, *Gray, Gen. B.* ii. p. 463 (1847).
Chalcites lucidus, *Bp. Consp. Vol. Zygod.* p. 7 (1854); *Verr. & Des Murs, Rev. et Mag. Zool.* 1860, p. 391; *Layard, Ibis*, 1878, p. 253; *Tristr. Ibis*, 1879, p. 181; *Layard, Ibis*, 1880, pp. 230, 800.
Chrysococcyx chalcites, *Licht. Nomencl. Av.* p. 78 (1854).
Lamprococcyx lucidus, pt., *Cab. & Heine, Mus. Hein.* iv. p. 14 (1862); *Salvad. Ann. Mus. Civ. Gen.* ix. p. 17 (1876); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iii. p. 256, iv. p. 96; *Salvad. Ibis*, 1879, p. 321.
Lamprococcyx plagosus, *Gould, Handb. B. Austr.* i. p. 623 (1865); *Salvad. Ann. Mus. Civ. Gen.* 1878, p. 459; *D'Alb. & Salvad. Ann. Mus. Civ. Gen.* 1879, p. 43; *Salvad. Orn. Papuasia*, i. p. 347 (1880), iii. p. 521 (1882), *Agg.* p. 49 (1889); *Finsch, Vög. d. Südsee*, p. 16 (1884).
Cuculus temminckii, *Gray, Hand-l. B.* ii. p. 219, no. 9048 (1870).
Chalcites plagosus, *Ramsay, Pr. Linn. Soc. N. S. Wales*, iii. p. 110 (1878), iv. p. 70 (1879), vii. p. 21 (1882); *Salvad. Ibis*, 1880, p. 128; *Tristr. Ibis*, 1882, pp. 138, 143.

*Adult male.* Very similar to *C. lucidus*, but differs in having the bill slighter; the crown and back of neck not green, but of a dark violet-brown; the penultimate tail-feather with rather more rufous, three rufous blotches being generally very distinct. Total length 6·2 inches, culmen 0·6, wing 4, tail 2·9, tarsus 0·6.

*Adult female.* Similar in plumage to the male.

*Hab.* Australia generally, Southern New Guinea and the adjacent islands to the Solomon Archipelago.

| | | |
|---|---|---|
| *a, b, c.* Ad. st. | Australia. | Sir G. Grey [P.]. |
| *d.* Ad. st. | Australia. | J. Gould, Esq. |
| *e.* Ad. sk. | Australia. | Linnean Society. (Type of *C. metallicus*, V. & H.) |
| *f.* Ad. sk. | Australia. | Sir D. Cooper [P.]. |
| *g, h.* Ad. sk. | New South Wales. | Hume Coll. |
| *i.* Ad. sk. | New South Wales. | Gould Coll. |
| *k–o.* ♂ ♀ ad. sk. | Sydney. | Tweeddale Coll. |
| *p.* Ad. sk. | South Australia. | Gould Coll. |
| *q.* Ad. sk. | Victoria. | Gould Coll. |
| *r.* Ad. sk. | Victoria. | Seebohm Coll. |

| | | |
|---|---|---|
| *s*, *t*. Ad. sk. | Queensland. | Seebohm Coll. |
| *u*. Ad. sk. | Clarence River. | Tweeddale Coll. |
| *v*. Ad. sk. | Moreton Bay. | Tweeddale Coll. |
| *w*-*e'*. Ad. et imm. sk. | Cape York (*Cockerell & Thorpe*). | Tweeddale Coll. |
| *f'*. Ad. sk. | North Australia. | Purchased. |
| *g'*, *h'*. Ad. sk. | Western Australia. | Gould Coll. |
| *i'*. Ad. sk. | Astrolabe Mts., New Guinea. | A. Goldie [C.]. |
| *k'*. ♂ ad. sk. | Blanche Bay, New Britain, June (*G. E. Richards*). | Seebohm Coll. |
| *l'*, *m'*. ♂ ♀ ad. sk. | Noumea, New Caledonia, Aug., Nov. (*E. C. Layard*). | Seebohm Coll. |
| *n'*. ♀ ad. sk. | New Ireland, Sept. | Rev. G. Brown [C.]. |
| *o'*. ♂ ad. sk. | Russell Island, Solomons, Sept. (*G. E. Richards*). | Seebohm Coll. |
| *p'*. ♂ ad. sk. | Aola, Guadalcanar, May. | C. M. Woodford, [C.]. |
| *q'*, *r'*. Ad. sk. | Tasmania. | C. H. Lloyd, Esq. [P.]. |
| *s'*, *t'*. Imm. sk. | Tasmania. | W. W. Saunders, Esq. [P.]. |

### 8. **Chalcococcyx malayanus.**

Cuculus malayanus, *Raffl. Trans. Linn. Soc.* xiii. p. 286 (1822).
Cuculus chalcites (*nec Ill.*), *Blyth, J. A. S. Beng.* xi. p. 919 (1842), xii. p. 944 (1843); *S. Müll. Verh. Nat. Gesch. Land- en Volk.* p. 234, note (1839–44).
Cuculus (Chrysococcyx) lucidus (*nec Gm.*), *Blyth, J. A. S. Beng.* xii. p. 944.
Chrysococcyx basalis, ? *Blyth, J. A. S. Beny.* xv. p. 54 (1846); ? *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 707 (1856–58); *Salvad. Ucc. di Borneo*, p. 62 (1874); *Sharpe, Trans. Linn. Soc.* 2nd ser. i. *Zool.* p. 320 (1877); *id. Ibis*, 1878, p. 416; *Wardlaw Ramsay, App. to Tweedd. Orn. Works*, p. 656 (1881).
Chrysococcyx chalcites (*nec Ill.*), *Blyth, Cat. B. Mus. As. Soc.* p. 73 (1849); *Bp. Consp.* i. p. 106 (1850); *Sclat. P. Z. S.* 1863, p. 209; *Wall. t. c.* p. 484.
Chrysococcyx minutillus, *Gould, P. Z. S.* 1859, p. 128; *id. B. Austr. Suppl.* pl. 56 (1859).
Chrysococcyx malayanus, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 706 (1856–58); *Walden, P. Z. S.* 1878, p. 945.
Lamprococcyx minutillus, *Cab. & Heine, Mus. Hein.* iv. p. 15, note (1862); *Gould, Handb. B. Austr.* i. p. 625 (1865).
Cuculus minutillus, *Gray, Hand-l. B.* ii. p. 218, no. 9043 (1870).
Lamprococcyx malayanus, *Hume & Davison, Str. F.* vi. p. 503 (1878).
Lamprococcyx basalis, *Grant, P. Z. S.* 1887, p. 191.

*Adult male.* Similar to *C. lucidus*, but smaller, the upper parts of a much more bronzy shade, the bars on the underparts brownish bronze with no shade of green; tail with more rufous, the white markings on the outer feather partially edged with that colour, the next pair with three black bars on the inner webs, alternating with two rufous bars, and the following two pairs having a portion of

their inner webs rufous: "bill blackish; iris burnt-sienna colour; orbital ring fine vermilion; feet very dark lead-grey" (*A. H. Everett*). Total length 5·8 inches, culmen 0·55, wing 3·7, tail 2·7, tarsus 0·6.

*Hab.* Malayan Peninsula, Java, Philippine Islands, Borneo, Flores, ranging to New Guinea and the Solomon Islands.

| | | |
|---|---|---|
| *a*, *b*. Ad. et imm. sk. | Klang, Selangore, July, Sept. (*W. Davison*). | Hume Coll. |
| *c*. Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *d*. ♂ ad. sk. | Malacca, August 16 (*R. G. W. R.*). | Tweeddale Coll. |
| *e*. Ad. sk. | Malacca (*A. R. Wallace*). | Gould Coll. |
| *f*, *g*. Ad. sk. | Malacca, March 9 (*W. Davison*). | Hume Coll. |
| *h*. Ad. sk. | N.W. Borneo. | Sir Hugh How [C.]. |
| *i*. Ad. sk. | Lumbidan, Borneo. | Governor Ussher [C.]. |
| *k*. Juv. sk. | Banjarmassing (*J. Motley*). | Wallace Coll. |
| *l*. ♂ ad. sk. | Sarawak. | A. Everett, Esq. [C.]. |
| *m*, *n*, *o*. ♂ ad. sk. | Zamboanga, Mindanao, April, May (*A. Everett*). | Tweeddale Coll. |
| *p*. Ad. sk. | Flores. | Wallace Coll. |
| *q*. ♀ juv. sk. | East Timor. | Wallace Coll. |
| *r*. Ad. sk. | Port Essington. | Gould Coll. (Type of *C. minutillus*.) |

### 9. Chalcococcyx pœcilurus.

Cuculus lucidus (*nec Gm.*), *S. Müll. Verh. Nat. Gesch. Land- en Volkenk.* pp. 21 & 234, note 6 (pt., ex New Guinea) (1839–44); *Schl. Mus. Pays-Bas*, Cuculi, p. 34 (1864, ¼ t.).

Chrysococcyx lucidus, pt., *Macgill. Voy.* '*Rattlesnake*,' ii. p. 357 (1852); *Sclat. Trans. Linn. Soc.* 1857, pp. 126, 127; *id. Journ. Linn. Soc.* ii. p. 166 (1858); *Gray, P. Z. S.* 1858, p. 195; *id. Cat. B. New Guin.* pp. 44, 60 (1859); *Rosenb. Nat. Tijdschr. Ned. Ind.* xxv. p. 230 (New Guinea) (1863); *id. J. f. O.* 1864, p. 117 (pt.); *Finsch, Neu-Guin.* p. 159 (1865).

Chrysococcyx pœcilurus, *Gray, P. Z. S.* 1861, pp. 431, 437; *Finsch, Neu- Guin.* p. 159 (1865).

Lamprococcyx pœcilurus, *Cab. & Heine, Mus. Hein.* iv. p. 15, note (1862); *Salvad. Ann. Mus. Civ. Gen.* 1878, p. 459; *id. Orn. Papuasia*, p. 350 (1880); *Meyer, Sitz. Abhandl. Ges. Isis*, p. 17 (1884); *Salvad. Orn. Papuasia*, App. i. p. 50 (1889).

Chrysococcyx russata, *Gould, P. Z. S.* 1868, p. 76.

Cuculus pœcilurus, *Gray, Hand-l B.* ii. p. 219, no. 9044 (1870).

Cuculus russatus, *Gray, t. c.* p. 219, no. 9047.

Lamprococcyx lucidus, *Salvad. & d'Alb. Ann. Mus. Civ. Gen.* 1875, p. 813; *Salvad. Ann. Mus. Civ. Gen.* 1876, p. 17 (part); *Sharpe, Journ. Linn. Soc.* xiii. p. 310 (1877).

Chalcites minutillus (*nec Gould*), *Ramsay, Pr. Linn. Soc. N. S. Wales*, ii. p. 170 (1877).

Lamprococcyx minutillus (*nec Gould*), *Ramsay, Pr. Linn. Soc. N. S. Wales*, 1878, p. 255, 1879, p. 96; *Salvad. Ibis*, 1879, p. 320; *Layard, P. Z. S.* 1875, p. 600.

Chalcites pœcilurus, *Ramsay, Tab. List Austr. B.* p. 15 (1888).

Chalcites russatus, *Ramsay, t. c.* p. 15.

*Adult male.* Similar to *C. malayanus*, but differing in having no white on the forehead; a partial narrow rufous edging to the secondaries, the outer tail-coverts partially barred with rufous and white; the edges of the tail-feathers washed with rufous above: "bill black, iris chestnut, feet grey" (*D'Albertis*). Total length 5·8 inches, culmen 0·55, wing 3·7, tail 2·6, tarsus 0·6.

*Immature.* Upper parts similar to the adult, but duller; chin and throat and front of breast ashy white; breast white, with a few dark bars; under wing-coverts white, without bars; pale portion of quills white, only partially washed with rufous.

A comparison of the series of *C. malayanus* and *C. pœcilurus* in the British Museum leads to the belief that they are merely the western and eastern races of one species with intermediate links. As in all these allied forms the young birds have the under wing-coverts white without bars, there remains some doubt as to whether *C. pœciluroides* and *C. misorensis*, both of which are founded upon immature specimens, really differ from *C. pœcilurus*. *C. pœcilurus* often shows a good deal of rufous on the throat, so that *C. ruficollis* may be only an abnormal specimen.

As I have here reviewed many of Count Salvadori's species, which have unfortunately been based upon single specimens, I may here mention that his *C. poliurus*, the type of which I have not seen, appears to be exactly intermediate between the two extremely closely allied species *C. lucidus* and *C. plagosus*, tending to show that *C. lucidus* is only a New-Zealand race of *C. plagosus*.

*Hab.* Northern Australia, New Guinea, Amboina, Mysol, Goram.

| | | |
|---|---|---|
| *a, b, c.* Ad. sk. | Cape York. | Gould Coll. (Types of *C. russata*, Gould.) |
| *d, e.* Imm. sk. | Cape York (*J. T. Cockerell*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Cape York. | Seebohm Coll. |
| *g.* Ad. sk. | Aleya, S.E. New Guinea, April (*Dr. James*). | Gould Coll. |
| *h.* Ad. sk. | Port Moresby, New Guinea. | Seebohm Coll. |
| *i.* ♀ ad. sk. | Mysol. | Wallace Coll. (Type of species.) |

### 10. Chalcococcyx ruficollis.

Lamprococcyx ruficollis, *Salvad. Ann. Mus. Civ. Gen.* 1875, p. 913, 1878, p. 460; *id. Orn. Papuasia*, i. p. 353 (1880).

*Adult* (type of species). Very similar to *C. pœcilurus*, but differs in having the lores, cheeks, chin, and entire throat bright rufous, with greenish-brown bars on the lower throat; the outer tail-feather on each side having the pale bars entirely rufous with no white spots. Total length 5·7 inches, culmen 0·55, wing 3·7, tail 2·7, tarsus 0·5. (*Mus. Genov.*)

*Hab.* The Arfak Mountains in N.W. New Guinea.

### 11. Chalcococcyx pœciluroides.

Lamprococcyx sp., *Salvad. Atti R. Acc. Tor.* xiii. p. 317 (1878).
Lamprococcyx pœciluroides, *Salvad. Ann. Mus. Civ. Gen.* 1878, p. 460; *id. Orn. Papuasia*, i. p. 353 (1880).

*Adult* (type of species). Very similar to *C. pœcilurus*, but differing in the metallic colours of the crown being brighter and greener, and the back and wing of a brighter and more fiery colour; beneath, the metallic bars less numerous; under wing-coverts buffy white, without bars; white on the tail conned to a spot on each of the two basal pale bars of outer tail-feather. Total length 5·2 inches, culmen 0·55, wing 3·3, tail 2·5, tarsus 0·6. (*Mus. Genov.*)
*Hab.* New Guinea.

### 12. Chalcococcyx misorensis.

Lamprococcyx misoriensis, *Salvad. Ann. Mus. Civ. Gen.* 1875, p. 914, 1878, p. 460; *id. Orn. Papuasia*, i. p. 354 (1880).

*Adult* (type of species). Very similar to *C. pœcilurus*, but differing in having the bill slightly wider at the base; the upper parts slightly greener; under wing-coverts uniform white without bars as in *C. pœciluroides*; tail beneath nearly uniform brown, partially washed with rufous and with a partial dark subterminal bar. Total length 5·6 inches, culmen 0·6, wing 3·5, tail 2·6, tarsus 0·6. (*Mus. Genov.*)
*Hab.* Misori Island in the Bay of Geelvink.

### 13. Chalcococcyx crassirostris.

Chrysococcyx lucidus, part., *S. Müll. Verh. Nat. Gesch. Land- en Volkenk.* p. 234, note 6 (Amboyna, 1839-44).
Cuculus palliolatus, *Schleg.* (*nec Lath.*), *Mus. Pays-Bas*, Cuculi, p. 34 (Amboyna, 1864).
Lamprococcyx crassirostris, *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 460 (1878), xiv. p. 642 (1879); *id. Orn. Papuasia*, p. 355 (1880).
? Cuculus crassirostris, *Brügg. Abhandl. nat. Ver. Brem.* v. p. 59 (1876).

*Adult* (type of species). Crown buffish brown, passing into metallic green on the nape, back of neck, and back; the interscapular regions mottled with deep bluish green; the lower back mottled with rufous buff; lesser wing-coverts golden green; remainder of the coverts rufous buff, mottled on the median series with metallic green, forming bars on one of the centre feathers, which has a white instead of a buff ground; quill dark brown, with pale edges; tail brown strongly washed with metallic green, and with a dark subterminal bar and a white terminal spot on the inner webs of all but the centre pair of feathers; outer feather white, with three broad blackish bars, the next somewhat similarly marked, but with the black portions much larger, the next two on each side with a portion of their inner webs rufous; sides of the forehead white;

ear-coverts pale brown, remainder of the sides of the head white like the entire underparts; sides of the lower throat and the sides of chest with rather obscure triangular dusky spots indicating bars and assuming the form of bars on the flanks and thigh-coverts; under tail-coverts white, with an occasional dusky shaft-spot; under wing-coverts white, slightly washed with rufous, and with a dusky patch next to the quills; quills pale brown, with a large white basal portion to the inner webs; bill black, legs leaden. Total length 5·75 inches, culmen 0·6, wing 3·7, tail 2·5, tarsus 0·6.

*Hab.* Goram, Amboina, Halmahera, Ternate, Ké Islands, and New Guinea.

*a*. Ad. sk. Halmahera. Tweeddale Coll.

## 12. COCCYZUS.

| | Type. |
|---|---|
| Coccyzus, *Vieill. Analyse*, p. 28 (1816) | C. americanus. |
| Coccygus, *Boie, Isis*, 1826, p. 977 | C. americanus. |
| Coccygon, *Glog. in Froriep's Notizen*, xvi. p. 277 (1827) | C. americanus. |
| Coccysus, *Savi, Orn. Toscana*. i. p. 153 (1827) | C. americanus. |
| Cureus, *Boie, Isis*, 1831, p. 541 | C. americanus. |
| Erythrophrys, *Swains. Class. B.* ii. p. 322 (1837) | C. americanus. |
| Coccyguis, *Nitzsch, Pterylogr.* p. 130 (1840) | C. americanus. |
| Nesococcyx, *Cab. & Heine, Mus. Hein.* iv. p. 79, note (1862) | C. ferrugineus. |

*Range.* North America from about 49° N. lat., and South America, with the exception of the extreme south.

*Key to the Species.*

*a*. Tail fan-shaped.
  *a'*. Crown grey; back rufous.
    *a''*. Darker, entire underparts tawny ..... *lansbergi*, p. 303.
    *b''*. Paler, underparts pale buff ..... *ferrugineus*, p. 303.
  *b'*. Back not rufous; crown nearly similar in colour to the back.
    *c''*. White ends to the tail-feathers broader, and with no subterminal black bars.
      *a'''*. Quills brown; upper half of the head greyer; a broad black band through the eye; breast shaded with buff.
        $a^1$. Basal half of the lower mandible orange-yellow.
          $a^5$. Bill smaller and slighter, culmen less than 1·2 inches. Underparts paler.
            $a^6$. Bill stouter. Underparts darker ..... *minor*, p. 304.
            $b^6$. Bill slighter. Underparts paler. *maynardi*, p. 306.
          $b^5$. Bill larger and stouter, culmen 1·3 inches. Underparts rufous buff..... *dominicæ*, p. 306.

*b*⁴. Bill entirely black ..... *melanocoryphus*, p. 307.
*b*‴. Quills rufous; upper half of head not greyer than the back; no black band on sides of head; breast white.
*c*⁴. Smaller: bill shorter and more slender ..... *americanus*, p. 308.
*d*⁴. Larger: bill longer and stouter .. *occidentalis*, p. 311.
*d*″. White ends to tail-feathers narrower and preceded by a subterminal black band ..... *erythrophthalmus*, p. 311.
*b*. Tail square, with rather narrow white ends.
*c*′. Throat ashy white ..... *cinereus*, p. 312.
*d*′. Throat rufous ..... *pumilus*, p. 313.

## 1. Coccyzus lansbergi.

Coccyzus lansbergi, *Bp. Consp. Av.* i. p. 112 (1850); *Scl. P. Z. S.* 1855, p. 163; *Cab. & Heine, Mus. Hein.* iv. p. 79, note; *Schl. Mus. Pays-Bas*, Cuculi, p. 39 (1864); *Scl. P. Z. S.* 1864, p. 122, 1870, p. 169; *Gray, Hand-l. B.* ii. p. 210, no. 8919 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873).

*Adult.* Upper half and sides of the head and back of neck uniform leaden grey, sharply contrasting with the back and wings, which are rufous, brightest on the outer portion of the wings, the quills shading into brown towards their ends; tail black, with a brown shade towards the base and with broad white ends to all but the centre feathers, which latter are only narrowly tipped with white; under surface nearly uniform tawny buff; under wing-coverts and basal margins of the inner webs of the quills rufous buff; bill black. Total length 10·5 inches, culmen 1, wing 4·6, tail 5·8, tarsus 1.

*Hab.* From Panama to Colombia and Venezuela.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Santa Martha, New Granada. | Purchased. |
| *b*. Ad. sk. | Venezuela (*Spence*). | Sclater Coll. |

## 2. Coccyzus ferrugineus.

Coccyzus ferrugineus, *Gould, P. Z. S.* 1843, p. 105; *id. Zool. Voy. 'Sulphur,'* p. 40, pl. 29 (1844); *Bp. Consp.* i. p. 97, note (1850); *Scl. P. Z. S.* 1870, p. 167; *Gray, Hand-l. B.* ii. p. 211, no. 8935 (1870).
Piaya ferruginea, *Gray, Gen. B.* ii. p. 457 (1846).
Nesococcyx ferrugineus, *Cab. & Heine, Mus. Hein.* iv. p. 79 (1862).

*Adult* (type of species). Upper half of the head leaden grey; back, wings, and centre tail-feathers bright rufous; remainder of the tail-feathers brownish black with white ends, the white increasing in extent over the outer feathers; under surface of body buff; under wing-coverts of the same colour; quills rufous, shading into buff at their bases and into brown at the ends: "bill dark horn-colour, with the basal half of the lower mandible yellowish; legs black" (*Gould*). Total length 11 inches, culmen 1·1, wing 5·1, tail 6·2, tarsus 1·2.

*Hab.* Confined to the Cocos Island in the Pacific Ocean west of Colombia.

| | | | |
|---|---|---|---|
| *a.* Ad. sk. | Cocos Island, N. Pacific. | Voy. H.M.S. 'Sulphur.' (Type of species.) |

### 3. Coccyzus minor. (Plate XII. fig. 2.)

Coucou des Paletuviers de Cayenne, *Buff. Pl. Enl.* p. 813.

Cuculus minor, *Gm. Syst. Nat.* i. p. 411 (1788); *Wald. Ibis*, 1879, p. 336.

Cuculus seniculus, *Lath. Ind. Orn.* i. p. 219 (1790).

Coucou, *Azara, Apunt. Nat. Hist. Pax.* ii. p. 267 (1805); *Hartl. Syst. Ind. Azara*, p. 17 (1847).

Coccyzus seniculus, *Vieill. Enc. Méth.* iii. p. 1346 (1825); *Neuwied, Beitr. Naturg. Bras.* iv. p. 348 (1832); *Nutt. Man. Orn.* i. p. 558 (1832); *Audub. Orn. Biogr.* ii. p. 390 (1834); *id. B. Am.* iv. p. 303, pl. 277 (1839); *Gosse, B. Jamaica*, p. 281 (1847); *Peale, U. S. Expl. Exped.* p. 134 (1848); *Lembeye, Av. Cuba*, p. 74 (1850); *Bp. Consp.* i. p. 111 (1850); *Burm. Syst. Th. Bras.* ii. p. 267 (1855); *Sallé, P. Z. S.* 1857, p. 234; *A. & E. Newton, Ibis*, 1859, p. 150; *Burm. Reis. La-Plata St.* ii. p. 267 (1861); *Scl. P. Z. S.* 1861, p. 79; *id. Cat. Am. B.* p. 323 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 78, note (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 38 (1864); *Taylor, Ibis*, 1864, p. 170; *Pelz. Orn. Bras.* p. 273 (1871); *Coues, Key N. Am. B.* p. 190 (1872); *Nutting, Pr. U. S. Nat. Mus.* v. p. 401 (1882), vi. p. 376 (1883), vii. p. 388 (1884); *Coues, Key N. Am. B.* 2nd ed. p. 476 (1884).

Piaya minor, *Less. Traité*, p. 141 (1831); *Schl. Mus. Pays-Bas*, Cuculi, p. 59 (1864).

Erythrophrys seniculus, *Bp. Comp. List B. Eur. & N. Amer.* p. 40 (1838).

Coccyzus minor, *Gray, Gen. B.* ii. p. 457 (1846); *Cab. J. f. O.* 1856, p. 104; *Cass. U. S. Expl. Exped.* 1858, p. 247; *Baird, B. N. Am.* p. 78 (1860); *Léotaud, Ois. Trinid.* p. 353 (1866); *Gray, Hand-l. B.* ii. p. 210, no. 8917 (1870); *Scl. P. Z. S.* 1870, p. 166, 1871, p. 273; *Semper, P. Z. S.* 1872, p. 651; *Baird, Brewer, & Ridgw. Hist. N. Am. B.* ii. p. 482 (1874); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *Lawr. Pr. U. S. Nat. Mus.* i. pp. 62, 193, 240, 272, 278, 359, 459, 487 (1878); *Boucard, P. Z. S.* 1878, p. 47; *Scl. P. Z. S.* 1879, p. 765; *Cory, B. Bahamas*, p. 117 (1880); *Allen, Bull. Nutt. Orn. Club*, v. p. 164 (1880); *Cory, op. cit.* vi. p. 154 (1881); *Maynard, B. East. N. Am.* p. 216 (1881); *Ridgw. Pr. U. S. Nat. Mus.* vii. p. 172 (1884); *Cory, B. Haiti*, p. 101 (1885); *A. O. U. Check-list*, p. 207 (1886); *Wells, Pr. U. S. Nat. Mus.* ix. p. 620 (1887); *Ridgw. Man. N. Am. B.* p. 274 (1887); *Cory, Auk*, v. p. 180 (1881); *Scott, Auk*, vi. pp. 185, 250 (1889); *Salv. Ibis*, 1889, p. 373, 1890, p. 88; *Scl. P. Z. S.* 1889, pp. 326, 395; *Cory, B. W. Ind.* p. 160 (1889).

Coccyzus helviventris, *Cab. in Schomb. Reise Brit.-Guiana*, iii. p. 714 (1848).

Coccyzus dominicus (*nec L.*), *Bp. Consp.* p. 112 (1850); *Scl. Cat. Am. B.* p. 323 (1862).

Coccyzus nesiotes, *Cab. Mus. Hein.* iv. p. 78, note (1862); *Scl. P. Z. S.* 1864, p. 121; *E. C. Taylor, Ibis*, 1864, p. 170; *Gray, Hand-l. B.* ii. p. 210, no. 8918 (1870).

Coccystes seniculus, *Sundev. Œfv. K. Vet.-Ak. Förh.* 1869, p. 599.

*Adult.* Upper half of the head leaden grey, with a broad blackish band through the eye extending from the nostril to over the ear-coverts; the grey of the crown passing gradually into brown on the remainder of the upper parts and slightly glossed with olive on the centre tail-feathers, remainder of the tail-feathers dusky black with broad white ends; under surface of body buff; under wing-coverts and basal margins to the quills buff; remainder of the quills brown: "bill black, with more than half of the lower mandible yellow; iris hazel; legs greyish blue" (*G. F. Gaumer*). Total length 12·3 inches, culmen 1·1, wing 5, tail 6·7, tarsus 1·1.

*Hab.* Coast of Louisiana, throughout Central America and the Antilles, ranging from Mexico, to Panama and Colombia, Venezuela, Guiana, down to the Lower Amazons.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Tampico, Mexico, Feb. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *b*. ♀ ad. sk. | Dos Arroyos (1000 ft.), State of Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *c*. ♀ ad. sk. | Cacoprieto, Tehuantepec, Jan. (*F. Sumichrast*). | Salvin-Godman Coll. |
| *d*, *e*. Ad. sk. | Temax, Yucatan (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *f*, *g*. Ad. sk. | Cozumel Island (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *h*. Ad. sk. | Buctzotz, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *i*, *k*, *l*. Ad. sk. | Ruatan Island (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *m*. Ad. sk. | Puerto Cabello, Honduras (*G. M. Whiteley*). | Salvin-Godman Coll. |
| *n*. Ad. sk. | Chiriqui, Veragua. | Captains Kellett & Wood [P.]. |
| *o*. Ad. sk. | Bogota. | Purchased. |
| *p*. Ad. sk. | British Guiana. | Seebohm Coll. |
| *q*. Ad. sk. | South America. | Tweeddale Coll. |
| *r*. Ad. sk. | Trinidad. | Zoological Society. |
| *s*. ♂ ad. sk. | Grenada, W. I. (*F. A. Ober*). | Salvin-Godman Coll. |
| *t*. Ad. sk. | St. Vincent (*F. A. Ober*). | Sclater Coll. |
| *u*. ♀ ad. sk. | Santa Lucia, April (*Ramage*). | West Indian Committee. |
| *v*, *w*, *x*. Ad. sk. | Santa Lucia (*Semper*). | Sclater Coll. |
| *y*. ♀ ad. sk. | Martinique (*F. A. Ober*). | Sclater Coll. |
| *z*. Ad. sk. | Montserrat (*Sturge*). | Sclater Coll. |
| *a'*, *b'*. ♂ ad. sk. | Virgin Gorda, Nov., Dec. (*C. B. Cory*). | Salvin-Godman Coll. |
| *c'*, *d'*. Ad. sk. | Porto Rico (*Dr. Bryant*). | Sclater Coll. |
| *e'*. ♀ ad. sk. | Puerta Plata, San Domingo, Nov. (*C. B. Cory*). | Salvin-Godman Coll. |
| *f'*, *g'*. Ad. sk. | San Domingo. | Purchased. |
| *h'*, *i'*. Ad. sk. | Jamaica, Feb. | Salvin-Godman Coll. |
| *k'*–*o'*. Ad. sk. | Jamaica. | Philip Gosse, Esq. [C.]. |
| *p'*. Sternum. | Jamaica. | Philip Gosse, Esq. [C]. |

I have recognized two closely allied subspecies, as they each present slight but constant characters, and all three forms of

*C. minor* possess a distinct geographical range. They are: *C. maynardi*, separated by Mr. Ridgway from *C. minor* on account of its small size, especially the bill, and paler underparts; and *C. dominicæ*, only known to me by three specimens in the British Museum, labelled Dominica. The latter form differs from *C. minor* in being more robust, with the bill much stronger, the colours richer, and the underparts rufous buff.

### Subsp. *a*. Coccyzus maynardi. (Plate XII. fig. 3.)

? Coccyzus sp. ?, *Dwight, Auk*, iv. p. 16 (1887).
Coccyzus maynardi, *Ridgw. Man. N. Am. B.* p. 274 (1887); *Cory, Auk*, v. p. 159 (1888); *Chapman, t. c.* p. 396.
Coccyzus minor maynardi, *Scott, Auk*, vi. p. 250 (1889).

*Adult.* "Smaller, and with lower parts much paler in colour; posterior lower parts buff (sometimes quite pale and never approaching the deep ochraceous tint of *C. minor*); anterior lower parts (chin, throat, and chest) pale ashy or greyish white, paler anteriorly, the throat usually more or less tinted with buff: length 11·75–12·25, wing 5·05–5·35 (5·23), tail 6·25–6·90 (6·65), exposed culmen 0·98–1·15 (1·06), depth of bill near base 0·33–0·40 (0·36)." (*Ridgway.*)

*Hab.* Bahama and Florida Keys, Jamaica and San Domingo.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Key West, Florida, May (*Atkins*). | Salvin-Godman Coll |
| *b*. Ad. sk. | Tampa, Florida (*Stewart*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Bahamas (*Blake*). | Sclater Coll. |
| *d*. Ad. sk. | San Domingo (*Sallé*). | Sclater Coll. |
| *e*. ♀ ad. sk. | Westmoreland, Jamaica, Aug. (*Osburn*). | Sclater Coll. |

### Subsp. *b*. Coccyzus dominicæ. (Plate XII. fig. 1.)

*Adult male.* Similar to *C. minor*, but more robust, the bill much stronger, and the colouring brighter; a broad black end to the centre tail-feathers, and the dark portions of the others jet-black; throat, breast, and under tail-coverts uniform rufous buff, with no shade of grey on the sides of the throat. Total length 12·5 inches, culmen 1·3, wing 5·7, tail 7·1, tarsus 1·15.

*Adult female.* Underparts slightly paler and with a trace of grey on the sides of the throat. Total length 12·6 inches, culmen 1·3, wing 5·5, tail 6·8, tarsus 1·15.

A third specimen labelled "male" is similar to the female. Total length 12·5 inches, culmen 1·3, wing 5·4, tail 6·8, tarsus 1·15

*Hab.* The islands of Dominica and Porto Rico.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*. ♀ ad. sk. | Dominica, Jan., Feb. (*Ramage*). | West Indian Committee. |
| *d*. Ad. sk. | Porto Rico (*Dr. Bryant.*) | Salvin-Godman Coll. |

### 4. Coccyzus melanocoryphus.

Cenicienlo, *Azara, Apunt.* ii. p. 368 (1805); *Hartl. Syst. Ind. Azara*, p. 17 (1847).

Coccyzus melanocoryphus, *Vieill. Nouv. Dict. d'Hist. Nat.* viii. p. 271 (1817); *id. Enc. Méth.* iii. p. 1344 (1825); *Scl. Cat. Am. B.* p. 323 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 77, note (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 38 (1864); *Scl. P. Z. S.* 1864, p. 122, 1866, p. 100; *id. & Salv. t. c.* p. 195, 1867, pp. 752, 979, 1869, p. 633; *Scl. P. Z. S.* 1870, p. 168; *Gray, Hand-l. B.* ii. p. 210, no. 8916 (1870); *Pelz. Orn. Bras.* p. 273 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *Barrows, Auk*, i. p. 28 (1884); *Taez. Orn. Pérou*, iii. p. 189 (1886); *Willington, Ibis*, 1888, p. 468; *Scl. & Hudson, Argent. Orn.* ii. p. 38 (1889).

Cuculus seniculus (*nec Lath.*), *Neuwied, Beitr. Naturg. Bras.* iv. p. 348 (1830).

Cuculus melanorhynchus, *Cuv. Mus. Paris.*

Piaya melanorhynchus, *Less. Traité*, p. 141 (1831).

Piaya melacorypha, *Gray, Gen. B.* ii. p. 457 (1846); *Léotaud, Ois. Trinid.* p. 349 (1866).

Coccyzus minor (*nec Gm.*), *Hartl. Ind. Azara*, p. 19 (1847).

Coccyzus cinereus (*nec V.*), *Bp. Consp.* i. p. 112 (1850).

Coccyzus melanocoryphos, *Pucher. Rev. et Mag. Zool.* 1852, p. 476.

Coccyzus surniculus, *Burm. Syst. Uebers. Th. Bras.* ii. p. 267 (1855); *id. J. f. O.* 1860, p. 244; *id. Reis. La-Plata*, ii. p. 444 (1861).

*Adult male.* Very similar to *C. minor*, but with the bill entirely black and the black band through the eye not so sharply defined; iris grey; feet lead-colour. Total length 10·8 inches, culmen 1, wing 4·7, tail 6, tarsus 1.

The centre tail-feathers have often, but not generally, dark ends. Occasionally specimens have a yellowish patch at the base of the lower mandible. A sign of immaturity is seen in the narrow rufous edges to the quills and upper tail-coverts and the brown mottling of the grey crown.

*Hab.* From Southern Brazil and Argentina, west to Peru and north to Guiana and the island of Trinidad.

| | | |
|---|---|---|
| *a.* Ad. sk. | Cayenne. | Sclater Coll. |
| *b.* Ad. sk. | Bartica Grove, Sept. (*H. Whitely*). | Salvin-Godman Coll. |
| *c.* ♀ ad. sk. | R. Yuruani, British Guiana, June (*H. Whitely*). | Salvin-Godman Coll. |
| *d.* ♂ ad. sk. | Caracas, Venezuela (*A. Goering*). | Salvin-Godman Coll. |
| *e, f.* Ad. sk. | Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *g.* Ad. sk. | Sarayacu, E. Peru. | E. Bartlett, Esq. [C.]. |
| *h, i.* ♂ ad.; *k, l.* ♀ ad. sk. | Upper Ucayali, June, July (*E. Bartlett*). | Sclater Coll. |
| *m.* Ad. sk. | Lima (*Nation*). | Sclater Coll. |
| *n, o.* ♂ ♀ ad. sk. | Pebas, E. Peru, July (*J. Hauxwell*). | Salvin-Godman Coll. |
| *p–u.* ♂ ♀ ad. sk. | Yquitos, Peru, May, June, July, Aug., Oct. (*H. Whitely*). | Seebohm Coll. |
| *v, w, x.* Ad. sk. | Brazil. | Seebohm Coll. |
| *y.* Ad. sk. | Pernambuco (*Craven*). | Sclater Coll. |

| | | |
|---|---|---|
| *z*, *a'*. Ad. sk. | Bahia, Brazil (*Dr. Wucherer*). | Salvin-Godman Coll. |
| *b'*. Ad. sk. | Rio, Brazil. | Sclater Coll. |
| *c'*. Ad. sk. | Bolivia, April (*H. H. Smith*). | Salvin-Godman Coll. |
| *d'*, *e'*. ♂ ad.; *f'*. ♀ ad. sk. | Conchitas, Buenos Ayres, Nov., Dec. (*W. H. Hudson*). | Sclater Coll. |
| *g'*. ♀ ad. sk. | Belgrano, Buenos Ayres, March. | H. Durnford, Esq. [C.]. |
| *h'*. Ad. sk. | Punta Lara, Buenos Ayres, Nov. | H. Durnford, Esq. [C.]. |

### 5. Coccyzus americanus.

Coucou de S. Domingue, *Briss. Orn.* iv. p. 110, pl. 9. fig. 2 (1760).

Coucou de la Caroline, *Briss. t. c.* p. 112; *Daubent. Pl. Enl.* vi. pl. 816.

Cuculus americanus, *Linn. Syst. Nat.* i. p. 170; *Temm. Tabl. Méth.* p. 52 (1838); *Wald. Ibis*, 1869, p. 335; *Harting, Handb. Brit. B.* p. 124 (1872).

Cuculus dominicus, *Linn. Syst. Nat.* i. p. 170 (1766); *Wald. Ibis*, 1869, p. 335.

Cuculus carolinensis, *Wils. Am. Orn.* iv. p. 13, pl. 28. fig. 1 (1811); *Gould, B. Eur.* pl. 242 (1837).

Coccyzus pyrrhopterus, *Vieill. Nouv. Dict. Hist. Nat.* viii. p. 270 (1817); *id. Enc. Méth.* iii. p. 1343 (1825).

Coccyzus americanus, *Bp. Journ. Acad. Nat. Sc. Philad.* iii. pt. 2, p. 267 (1824); *Audubon, Orn. Biogr.* i. p. 18 (1831); *Nutt. Man.* i. p. 551 (1832); *Jard. ed. Wilson, Am. Orn.* p. 1, pl. 28. fig. 1 (1832); *Thomps. P. Z. S.* 1835, p. 84; *Gould, B. Eur.* iii. pl. 242 (1837); *Audubon, B. Am.* iv. pl. 275 (1839); *Yarr. Hist. Brit. B.* (2) ii. p. 204 (1845); *Gosse, B. Jamaica*, p. 279 (1847); *Audubon, Orn. Biogr.* v. p. 52 (1849); *Thompson, Nat. Hist. Ireland*, i. p. 365 (1849); *Bp. Consp.* i. p. 111 (1850); *Macgill. Hist. Brit. B.* iii. p. 137 (1850); *Yarr. Hist. Brit. B.* (3) ii. p. 209 (1856); *A. & E. Newt. Ibis*, 1859, p. 149; *Jones, Nat. Hist. Bermuda*, pp. 33, 68 (1859); *Baird, B. N. Am.* p. 76 (1860); *Scl. & Salv. Ibis*, 1860, p. 43; *G. C. Taylor, t. c.* p. 118; *Scl. P. Z. S.* 1860, p. 252; *id. Cat. Am. B.* p. 322 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 75 (1862); *Cab. J. f. O.* 1862, p. 167; *Scl. P. Z. S.* 1864, pp. 120, 177, 366; *Schl. Mus. Pays-Bas*, Cuculi, p. 37 (1864); *Dresser, Ibis*, 1865, p. 467; *Léotaud, Ois. Trinid.* p. 350 (1866); *Baird, Ibis*, 1867, pp. 285, 288; *Scl. P. Z. S.* 1870, p. 165; *Gray, Hand-l. B.* ii. p. 210, no. 8914; *Cooper, Orn. Calif.* p. 371 (1870); *Dresser, P. Z. S.* 1871, p. 299; *Scl. P. Z. S.* 1872, p. 496; *Coues, Key N. Am. B.* p. 190 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *Baird, Brewer, & Ridgw. Hist. N. Amer. B.* ii. p. 477 (1874); *Coues, B. North-West*, p. 275 (1874); *Scl. & Salv. P. Z. S.* 1875, p. 237; *Dresser, B. Eur.* v. p. 227, pl. 301. fig. 2 (1876); *Allen, Bull. Nutt. Orn. Club*, ii. p. 110 (1877); *Ridgw. Bull. Nutt. Orn. Club*, iii. p. 165 (1878); *Scl. & Salv. P. Z. S.* 1879, p. 537; *Ridgw. Pr. U. S. Nat. Mus.* i. p. 150 (1879); *Brown, Bull. Nutt. Orn. Club*, iv. p. 11 (1879); *Scott, t. c.* p. 146; *Loomis, t. c.* p. 216; *Dalgleish, Bull. Nutt. Orn. Club*, v. p. 73 (1880); *Maynard, B. East. N. Am.* p. 216 (1881); *Merriam, Bull. Nutt. Orn. Club*, vi. p. 232 (1881); *Cory, B. Bahama*, p. 117 (1881); *Ridgw. Bull. Nutt. Orn. Club*, vii. p. 17 (1882); *Widman, t. c.* p. 56; *Hay, t. c.* p. 93; *Beckham, t. c.* p. 164; *Nehrling, t. c.* p. 178; *B. O. U. List Brit. B.* p. 84 (1883); *Brewster, Bull. Nutt. Orn. Club*, viii. p. 26 (1883); *Bailey, t. c.* p. 40; *Seebohm, Hist. Brit. B.* ii. p. 390,

pl. 68 (1883); *Coues, Key N. Am. B.* p. 476 (1884); *Drew, Auk*, ii. p. 17 (1885); *Agersborg, t. c.* p. 283; *Turner, Pr. U. S. Nat. Mus.* viii. p. 242 (1885); *Ridgw. Pr. U. S. Nat. Mus.* ix. p. 162 (1886); *A. O. U. Check-list*, p. 208 (1886); *Giglioli, Av. Ital.* p. 211 (1886); *Brewster, Auk*, iii. p. 104 (1886); *Salvad. Elenc. Ucc. Ital.* p. 73 (1887); *Ridgw. Man. N. Am. B.* p. 273 (1887); *Davison, Auk*, v. p. 263 (1888); *Willington, Ibis*, 1888, p. 468; *Warren, B. Pennsyl.* p. 119 (1888); *Salv. Ibis*, 1889, p. 372; *Feilden, t. c.* p. 486; *Everm. Auk*, vi. p. 22 (1889); *Jefferies, t. c.* p. 120; *Scott, t. c.* p. 250; *Pindar, t. c.* p. 313; *Scl. & Hudson, Argent. Orn.* ii. p. 37 (1889).

Cuculus cinerosus, *Werner, Atlas, Zygod.* pl. 4 (1827).

Piaya americana, *Less. Traité*, p. 142 (1831).

Cureus americanus, *Boie, Isis*, 1831, p. 541, 1832, p. 991, pl. 26; *Bp. Cat. Ucc. Eur.* p. 50 (1842).

Cuculus cinerosus, *Temm. Man. Orn.* iii. p. 277 (1835).

Erythrophrys carolinensis, *Swains. Class. B.* ii. p. 322 (1837).

Erythrophrys americanus, *Bp. Comp. List B. Eur. & N. Am.* p. 40 (1838).

Coccystes americanus, *Keys. & Blas. Wirb. Eur.* p. 34 (1840).

Coccyzus carolinensis, *D'Orb. in Sagra's Hist. Nat. Cuba, Ois.* p. 150 (1840).

Piaya dominica, *Gray, Gen. B.* ii. p. 457 (1846).

Coccyzus dominicus, *Bp. Consp.* i. p. 112 (1850); *Scl. P. Z. S.* 1857, p. 234; *Baird, Pr. Ac. Philad.* 1863, p. 64; *March, t. c.* p. 154.

Coccyzus flavirostris, *Glog. J. f. O.* 1854, p. 223, note.

Coccystes julieni, *Lawr. Ann. Lyc. N. Y.* viii. p. 42 (1864).

Coccyzus bairdi, *Scl. P. Z. S.* 1864, p. 120; *Gray, Hand-l. B.* ii. p. 211, no. 8923 (1870); *Pelz. Orn. Bras.* p. 273 (1871); *Scl. P. Z. S.* 1872, p. 496.

Coccyzus julieni, *Gray, Hand-l. B.* ii. p. 211, no. 8924 (1876).

Coccyzus euleri, *Cab. J. f. O.* 1873, p. 73.

*Adult.* Above brown, slightly glossed with olive on the mantle and centre tail-feathers; remainder of the tail dusky black with broad white ends; quills rufous, browner on their outer webs, and with broadish brown terminal portion; sides of the forehead and eyebrows slightly washed with grey; ear-coverts generally rather darker brown than the crown; checks and entire underparts white; under wing-coverts white, very slightly tinted with buff; under surface of the quills as above, only paler, especially towards the coverts: upper mandible dark horn, pale below the nostrils, lower mandible orange-yellow with a dark tip; iris dark brown; legs leaden grey. Total length 11 inches, culmen 1, wing 5·5, tail 6, tarsus 1.

*Hab.* The greater part of temperate North America, Central America, and the Antilles, ranging as far south as the Argentine Republic. Found as a straggler in Europe.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Kenwood, Ill., Aug. (*H. K. Coale*). | R. B. Sharpe, Esq. [P.]. |
| *b*. Ad. sk. | Englewood, Ill., Sept. (*E. W. Nelson*). | Henshaw Coll. [S.-G.]. |
| *c*. ♀ ad. sk. | Locust Grove, N. Y., July (*C. L. Bass*). | Henshaw Coll. [S.-G.]. |

| | | |
|---|---|---|
| *d*, *e*. ♀ ad. sk. | Massachusetts, May, June. | Henshaw Coll. [S.-G.]. |
| *f*, *g*. ♂ ad.; *h*, *i*, *k*. ♀ ad. sk. | New Haven, Connecticut, May (*A. J. Dayan*). | Henshaw Coll. [S-G.]. |
| *l*, *m*. ♂ ad.; *n*–*q*. ♀ ad. sk. | Washington, D.C., May, July–Sept. | Henshaw Coll. [S.-G.]. |
| *r*, *s*. Ad. sk. | District of Columbia, Aug. (*E. Coues*). | Salvin-Godman Coll. |
| *t*–*x*. ♂ ad.; *y*. ♀ ad. sk. | Tarpon Springs, Florida, April, May, Sept., Oct. (*W. E. D. Scott*). | Salvin-Godman Coll. |
| *z*. Ad. sk. | Louisiana. | Seebohm Coll. |
| *a'*. ♂ ad. sk. | Camp Lowell, Arizona, Aug. (*F. Stephens*). | R. B. Sharpe, Esq. [P.]. |
| *b'*. ♂ ad. sk. | Moctezuma, State of Sonora, Aug. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *c'*, *d'*. ♀ ad. sk. | Hidalgo, Texas, April (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *e'*. ♂ ad. sk. | Brownsville, Texas, May (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *f'*, *g'*, *h'*. ♂ ad. sk. | Nuevo Leon, May (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *i'*. Ad. sk. | City of Mexico (*White*). | Sclater Coll. |
| *k'*. Ad. sk. | Tampico, Mexico, June (*W. B. Richardson*). | Salvin-Godman Coll. |
| *l'*, *m'*. ♂ ♀ ad. sk. | Xicotencla, Tamaulipas, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *n'*, *o'*. ♂ ad. sk. | Calvillo, Aguas Calientes, Aug. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *p'*. ♂ ad. sk. | Las Vigas, Canton de Jalapa, Aug. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *q'*. ♂ ad. sk. | Plan del Rio, Canton de Jalapa, Aug. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *r'*. Ad. sk. | Jalapa (*de Oca*). | Salvin-Godman Coll. |
| *s'*. ♀ ad. sk. | La Antigua, Vera Cruz, Sept. (*M. Trujillo*). | Salvin-Godman Coll. |
| *t'*–*w'*. Ad. sk. | Cozumel Island, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *x'*. Ad. sk. | Ruatan Island (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *y'*, *z'*, *a''*. Ad. sk. | Jamaica (*March*). | Sclater Coll. |
| *b''*. Ad. sk. | Jamaica. | Sclater Coll. (Type of *C. bairdi*.) |
| *c''*. ♀ ad. sk. | St. Croix, June (*A. Newton*). | Salvin-Godman Coll. |
| *d''*. Ad. sk. | Trinidad. | Zoological Society. |
| *e''*. Ad. sk. | Central America. | Riocour Coll. |
| *f''*, *g''*. Ad. sk. | Dueñas, Guatemala, Sept. (*O. S.*). | Salvin-Godman Coll. |
| *h''*. ♀ ad. sk. | Panama (*J. McLeannan*). | Salvin-Godman Coll. |
| *i''*. ♂ ad.: *k''*, *l''*. ♀ ad. sk. | Medellin, Antioquia (*T. K. Salmon*). | Salvin-Godman Coll. |
| *m''*, *n''*, *o''*. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| *p''*. Ad. sk. | Intac, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *q''*. Ad. sk. | Bahia, Brazil. | Seebohm Coll. |
| *r''*. Ad. sk. | Buenos Ayres (*W. H. Hudson*). | Sclater Coll. |
| *s''*. Sternum. | Jamaica. | Philip Gosse, Esq. [C.]. |

### Subsp. *a*. Coccyzus occidentalis.

Coccyzus americanus occidentalis, *Ridgway, Man. N. Am. B.* 1887, p. 273; *Chapman, Auk*, v. p. 396 (1888).

"Larger, with proportionally larger and stouter bill: length 12·30–13·50, depth of bill through base ·37–·40." (*R. Ridgway.*)

*Hab.* Western United States, north to Oregon, east to New Mexico and Colorado, south over tablelands to Mexico. (*Ridgway.*)

## 6. Coccyzus erythrophthalmus.

Cuculus erythrophthalmus, *Wils. Am. Orn.* iv. p. 16, pl. 28. fig. 2 (1811); *Steph. Gen. Zool.* xiv. p. 208 (1826); *Harting, Handb. Brit. B.* p. 124 (1872).

Coccyzus dominicus (*nec L.*), *Nutt. Man. Orn.* i. p. 556 (1832).

Coccyzus erythrophthalmus, *Bp. Journ. Acad. Philad.* iii. p. 307, pl. 2 (1824); *Audubon, Orn. Biogr.* i. p. 170 (1831), v. p. 523 (1839); *id. B. Am.* iv. p. 300, pl. 276 (1839); *Lembeye, Av. Cuba*, p. 73 (1850); *Bp. Consp.* i. p. 111 (1850); *Glog. J. f. O.* 1854, p. 224; *Scl. P. Z. S.* 1857, p. 214, 1859, p. 252; *Baird, N. Am. B.* ii. p. 484 (1860); *id. B. N. Am.* p. 77 (1860); *Salv. & Scl. Ibis*, 1860, p. 276; *Scl. Cat. Am. B.* p. 323 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 76, note (1862); *Schl. Mus. Pays-Pas*, Cuculi, p. 37 (1864); *Scl. P. Z. S.* 1864, p. 122; *Lévaud, Ois. Trin.* p. 352 (1866); *Baird, Ibis*, 1867, pp. 273, 285; *Selys, Ibis*, 1870, p. 452; *Scl. P. Z. S.* 1870, p. 168; *Gray, Hand-l. B.* ii. p. 210, no. 8915 (1870); *Scl. P. Z. S.* 1870, p. 681; *Coues, Key N. Am. B.* p. 190 (1872); *Scl. et Salv. Nomencl. Av. Neotr.* p. 108 (1873); *iid. P. Z. S.* 1873, p. 296; *Gould, Introd. B. Gt. Brit.* p. xcv (1873); *Baird, Brewer, & Ridgw. Hist. N. Am. B.* ii. p. 484 (1874); *Coues, B. North-West*, p. 274 (1874); *Dresser, B. Eur.* v. p. 231, pl. 301. fig. 1 (1876); *Scott, Bull. Nutt. Orn. Club*, iv. p. 146 (1876); *Loomis, t. c.* p. 216; *Tacz. P. Z. S.* 1877, p. 328; *Brewst. Bull. Nutt. Orn. Club*, iii. p. 178 (1878); *Scl. et Salv. P. Z. S.* 1879, p. 537; *Roberts & Brewst. Bull. Nutt. Orn. Club*, v. p. 16 (1880); *Dalgleish, t. c.* p. 73; *Maynard, B. East. N. Am.* p. 216 (1881); *Merriam, Bull. Nutt. Orn. Club*, vi. p. 232 (1881); *Ridgw. op. cit.* vii. p. 18 (1882); *Widman, t. c.* p. 56; *Batchelder, t. c.* p. 150; *Nehrling, t. c.* p. 172; *King, t. c.* p. 188; *B. O. U. List Brit. B.* p. 85 (1883); *Seebohm, Hist. Brit. B.* ii. p. 39, pl. 68; *Bailey, Bull. Nutt. Orn. Club*, viii. p. 40 (1883); *Coues, Key N. Am. B.* p. 475 (1884); *Dutcher, Auk*, i. pp. 178, 179 (1884); *Turner, Pr. U. S. Nat. Mus.* viii. p. 243 (1885); *Agersborg, Auk*, ii. p. 283 (1885); *A. O. U. Check-list*, p. 208 (1886); *Tacz. Orn. Pérou*, iii. p. 189 (1886); *Lawr. Ann. Lyc. N. Y.* vii. p. 477 (1886); *Seaton, Auk*, iii. p. 155 (1886); *Salvad. Elenc. Ucc. Ital.* p. 73 (1887); *Ridgw. Man. N. Am. B.* p. 274 (1887); *Warren, B. Pennsylv.* p. 120 (1888); *Davison, Auk*, v. p. 263 (1888); *Everm. Auk*, vi. p. 22 (1889); *Faxon, t. c.* pp. 44, 149, 151; *Jefferies, t. c.* p. 120; *Scott, t. c.* p. 250; *Pindar, t. c.* p. 323; *Salvin, Ibis*, 1889, p. 373.

*Adult.* Very similar to *C. americanus*, but differs in the almost entire absence of rufous on the quills, which have their inner webs

only basally washed with rufous buff; the tail is paler, the feathers have a black subterminal bar and narrow white ends: bill entirely black or with a yellowish patch on the keel of the lower mandible: iris brown; legs leaden grey. Total length 11·2 inches, culmen 0·9, wing 5·3, tail 6·4, tarsus 0·95.

*Hab.* North America south of 49° N. lat., extending south to Colombia and the islands of Cuba and Trinidad.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | Fort Dufferin, June. | N. A. Bound. Commission. |
| *d*, *e*. Ad. sk. | Michigan. | Prof. Steere [P.]. |
| *f*. Ad. sk. | South Chicago, July. | Henshaw Coll. [S.-G.]. |
| *g*. Imm. sk. | Leyden, Lewis Co., New York, Sept. (*C. H. Merriam*). | Henshaw Coll. [S.-G.]. |
| *h*. Ad. sk. | Locust Grove, N. Y. (*C. H. M.*). | Henshaw Coll. [S.-G.]. |
| *i*–*m*. Ad. sk. | Massachusetts, May, June (*C. H. M.*). | Henshaw Coll. [S.-G.]. |
| *n*, *o*. ♂ ad.; *p*–*t*. ♀ ad. sk. | New Haven, Connecticut, May (*A. J. Dayan & C. H. Merriam*). | Henshaw Coll. [S.-G.]. |
| *u*–*a'*. ♂ ad. sk. | Washington, D. C., May, July, Aug. (*H. W. H.*). | Henshaw Coll. [S.-G.]. |
| *b'*. Ad. sk. | Stone's lot, District of Columbia, Sept. (*D. W. Prentiss*). | Salvin-Godman Coll. |
| *c'*, *d'*. ♂ ad.: *e'*. ♀ ad. sk. | Corpus Christi, Texas (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *f'*. Ad. sk. | Acapulco, State of Guerrero, Mexico, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *g'*. Ad. sk. | Dos Arroyos (1000 ft.), State of Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *h'*. Ad. sk. | Cozumel Island, May (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *i'*. Ad. sk. | Guatemala (*Constancia*). | Salvin-Godman Coll. |
| *k'*, *l'*. Ad. sk. | Dueñas, Guatemala, Oct., Nov. (*O. S.*). | Salvin-Godman Coll. |
| *m'*, *n'*. ♀ ad. sk. | Medellin, Antioquia, U. S. Colombia (*T. K. Salmon*). | Salvin-Godman Coll. |
| *o'*, *p'*, *q'*. Ad. sk. | New Granada. | Seebohm Coll. |
| *r'*. Ad. sk. | Bogota. | Sclater Coll. |
| *s'*. Ad. sk. | Chamicuros, Eastern Peru, Sept. | Gould Coll. |

### 7. Coccyzus cinereus.

Coccyzus cinereus, *Vieill. Nouv. Dict. Hist. Nat.* viii. p. 272 (1817); *Pucher. Rev. et Mag. Zool.* 1852, p. 477; *Burm. Th. Bras.* ii. p. 268 (1854–56); *Cab. & Heine, Mus. Hein.* iv. p. 77, note (1862); *Scl. P. Z. S.* 1864, p. 120; *Burm. P. Z. S.* 1868, p. 634; *Scl. & Salv. P. Z. S.* 1869, p. 633; *Scl. P. Z. S.* 1870, p. 169; *Gray, Hand-l. B.* ii. p. 211, no. 8920 (1870); *Scl. & Salv. Nomencl. Av. Neotrop.* p. 108 (1873); *Barrows, Auk*, i. p. 28 (1884); *Withing-*

*ton, Ibis*, 1888, p. 468; *Scl. & Hudson, Argent. Orn.* ii. p. 38, pl. 13 (1889).
Piaya cinerea, *Gray, Gen. B.* ii. p. 457 (1846).

*Adult.* Upper half of the head grey, passing into ashy brown on the back and mantle, and becoming browner on the quills and tail, the latter shading into blackish towards the end; all but the centre tail-feathers narrowly tipped with white; sides of the head like the crown, gradually passing into ashy white on the throat and front half of the chest; remainder of the body white, with a buff shade on the under tail-coverts; axillaries, under wing-coverts, and basal portion of the inner webs of the primaries buff, remainder of the quills ashy brown: bill black, with a pale basal portion to the under mandible. Total length 10 inches, culmen 0·85, wing 4·3, tail 4·6, tarsus 0·9.

*Hab.* The Argentine Republic and Paraguay, ranging possibly into Chili.

| | | |
|---|---|---|
| *a.* Ad. sk. | Chili? | Zoological Society. |
| *b.* ♀ ad. sk. | Conchitas, Buenos Ayres, Dec. (*W. H. Hudson*). | Salvin-Godman Coll. |
| *c, d.* ♂ ♀ ad. sk. | Conchitas, Nov., Dec. (*W. H. Hudson*). | Sclater Coll. |

### 8. Coccyzus pumilus.

Coccyzus pumilus, *Strickl. Contr. Orn.* 1852, p. 28, pl. 82; *Cab. & Heine, Mus. Hein.* iv. p. 79, note (1862); *Scl. Cat. Am. B.* p. 323 (1862); *id. P. Z. S.* 1864, p. 122, 1870, p. 169; *Gray, Hand-l. B.* ii. p. 211, no. 8922 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *Barrows, Auk*, i. p. 28 (1884); *Scl. & Hudson, Argent. Orn.* ii. p. 39 (1889).

*Adult.* Forehead and crown grey, slightly tinted with rufous on the sides and gradually shading into ashy brown on the back and mantle; wings and tail slightly browner, the latter shading into black on the terminal portion, the ends of the feathers narrowly tipped with white; sides of the head, chin, throat, and front of the chest bright rufous; remainder of the body, the tail and wing-coverts, and a basal inner margin to the quills buff; bill black. Total length 7 inches, culmen 0·75, wing 3·7?, tail 3·5, tarsus 0·9.

*Hab.* The Island of Trinidad, Venezuela and Colombia.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Santa Fé, Bogota. | Salvin-Godman Coll. |
| *b, c.* Ad. sk. | Trinidad. | Sclater Coll. |

## 13. URODYNAMIS.

Type.
Urodynamis, *Salvad. Orn. Papuasia*, i. p. 370 (1880) .. U. taitiensis.

*Range.* The islands of the Pacific Ocean to New Zealand and the Solomon Archipelago.

### 1. Urodynamis taitiensis.

Le Coucou brun varié de noir, *Montb. Hist. Nat. Ois.* vi. p. 376 (1779).
Society Cuckoo, *Lath. Gen. Syn.* ii. p. 514 (1782).
Cuculus taitiensis, *Sparrm. Mus. Carls.* ii. pl. 32 (1787); *Vieill. Enc. Méth.* p. 1329 (1823); *Sundev. Krit. Framst.* p. 8 (1858); *Wald. Ibis*, 1869, p. 346.
Cuculus tahitius, *Gm. Syst. Nat.* i. p. 412; *Wald. Ibis*, 1869, p. 336.
Cuculus taitensis, *Lath. Ind. Orn.* i. p. 209 (1790); *Steph. Gen. Zool.* ix. p. 92 (1815); *Less. Traité Orn.* p. 151 (1831); *Ellmann, Zoologist*, 1861, p. 7467; *Schl. Mus. Pays-Bas*, Cuculi, p. 21 (1864).
Cuculus perlatus, *Vieill. N. Dict.* viii. p. 232 (1817); *id. Enc. Méth.* iii. p. 1334 (1823); *Pucher. Rev. et Mag. Zool.* 1852, p. 562, note.
Eudynamys taitiensis, *Gray, App. Dieffenb. New Zealand*, ii. p. 193 (1843); *id. Gen. B.* ii. p. 464 (1846); *Cass. U. S. Expl. Exp.* p. 248, *Atlas*, pl. 22. fig. 2 (1858); *Gray, Ibis*, 1862, p. 231.
Cuculus fasciatus, *Forst. Descr. Anim.* p. 160 (1844); *id. Icon. Zool.* 56.
Eudynamis cuneicauda, *Peale, U. S. Expl. Exp.* p. 139, pl. 38. fig. 2 (1848); *Hartl. Wiegm. Arch. Naturg.* xviii. p. 107 (1852).
Eudynamis taitensis, *Bp. Consp. Av.* i. p. 101 (1850); *id. Consp. Vol. Zygod.* p. 6 (1854); *Bull. B. N. Zeal.* p. 73, pl. 8 (1873); *id.* 2nd ed. i. p. 127 (1888); *Layard, P. Z. S.* 1876, p. 491; *Tristr. Ibis*, 1882, p. 143.
Eudynamis tahitiensis, *Cass. U. S. Expl. Exp., Atlas*, pl. 22. fig. 2 (1858); *Potts, Trans. N. Zeal. Inst.* iii. p. 90 (1873).
Eudynamys tahitius, *Gray, Cat. B. Trop. Isl.* p. 35 (1859).
Eudynamis taitiensis, *Cab. & Heine, Mus. Hein.* iv. p. 56, note (1862); *Layard, Ibis*, 1876, pp. 144, 391; *Finsch, P. Z. S.* 1877, p. 773; *id. Ibis*, 1880, p. 433.
Eudynamys taitiensis, *Gray, Hand-l. B.* ii. p. 221, no. 9077 (1870); *Ramsay, Proc. Linn. Soc. N. S. Wales*, iv. p. 70 (1879).
Eudynamis tahitensis, *Potts, Trans. N. Zeal. Inst.* iii. p. 90 (1870); *Layard, Ibis*, 1880, p. 300.
Eudynamis tahitius, *Layard, Ibis*, 1878, p. 275.
Urodynamis taitiensis, *Salvad. Orn. Papuasia*, i. p. 370 (1880); *Agg.* i. *App.* p. 51 (1889); *Grant, P. Z. S.* 1888, p. 191.

*Adult male.* Above dark brown, striped on the head and neck, and barred on the back, wings, and tail with rufous: most of the wing-coverts, a few of the greater scapulars, and the tail-feathers with white ends; tail evenly and regularly barred with numerous alternate bands of dark brown and rufous; eyebrow white, lores and ear-coverts dark brown streaked with rufous; underparts white, with dark brown shaft-stripes, mostly on the sides of the throat and body; thigh-coverts and under tail-coverts with broad angular somewhat concentric bars; under wing-coverts buffy white; quills brown barred with whitish: a small patch of bare skin round the eye dull green; bill brown, paler and greyer along the edges and yellower on the lower mandible; iris reddish brown; legs greenish yellow, claws dark brown. Total length 17·8 inches, culmen 1·15, wing 7·8, tail 9·7, tarsus 1·45.

*Adult female.* Similar to the male in plumage.

The amount of striping on the underparts varies slightly, but apparently not with age; the immature birds may be easily recognized by the more spotted appearance of the mantle and by the greater amount of rufous shade on the throat.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a.* Ad. st. | New Zealand. | Miss R. Stone [P.]. |
| *b.* Ad. sk. | New Zealand. | Sir E. Home [P.]. |
| *c.* Ad. sk. | New Zealand. | Capt. Stokes [P.]. |
| *d.* Imm. sk. | New Zealand. | Mr. Low [P.]. |
| *e.* Imm. sk. | New Zealand. | Sir G. Grey [P.]. |
| *f.* Ad.; *g.* Imm. sk. | New Zealand. | Tweeddale Coll. |
| *h, i.* Ad. sk. | New Zealand. | Seebohm Coll. |
| *k, l.* Ad. sk. | Dunedin, New Zealand, Dec. | Hume Coll. |
| *m.* Ad. sk. | Tongatabu, Friendly Islands. | Purchased. |
| *n.* Ad. sk. | Island of Huaheine, Society Islands. | Tweeddale Coll. |
| *o.* Imm. sk. | Samoa. | Rev. S. I. Whitmee [C.]. |

## 14. EUDYNAMIS.

| | Type. |
|---|---|
| Eudynamys, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 303 (1826) ..... | E. cyanocephala. |
| Dynamene, *Steph. Gen. Zool.* xiv. p. 211 (1836).. | E. mindanensis. |
| Eudynamis, *Bp. Consp.* i. p. 100 (1850) ..... | |

*Range.* Indian Peninsula and Ceylon, through the Burmese countries to Southern China. Through the Malayan Peninsula, with the islands of the Bay of Bengal, the whole Malayan Archipelago to New Guinea and the Papuan Islands, and also Australia.

*Key to the Species.*

*a.* Plumage never entirely black. (Females.)
  *a'.* Bill never black.
    *a''.* Smaller; bars on breast broader.
      *a'''.* Bars on abdomen broader.. ..... *honorata*, p. 315.
      *b'''.* Bars on abdomen narrower ..... *mindanensis*, p. 321.
    *b''.* Larger; bars on breast very narrow.
      *c'''.* All the pale parts of the plumage not rufous; upper half of the head and back of neck black; chin and upper half of throat black, with a white loral band.
        *a*[4]. Pale portions of plumage more rufescent, never white ..... *orientalis*, p. 322.
        *b*[4]. Pale portions of plumage whiter, the spots on the mantle more numerous and mostly white .... *cyanocephala*, p. 324.
      *d'''.* Entire plumage rufous and black; upper half of the head and the chin broadly striped with rufous and black..... *rufiventer*, p. 325.
  *b'.* Bill black ..... *melanorhyncha*, p. 327.

*b*. Plumage black; bill not black. (Males.)

*c'*. Smaller and slightly greener ..... { *honorata*, p. 316. / *mindanensis*, p. 321.

*d'*. Larger and slightly more blue ..... { *orientalis*, p. 322. / *cyanocephalus*, p. 324. / *rufiventer*, p. 325.

## 1. Eudynamis honorata.

Black Indian Cuckoo, *Edwards, Nat. Hist. B.* ii. pl. 58 (1747).

Brown and Spotted Indian Cuckoo, *Edwards, t. c.* pl. 59 (1747).

Coucou tacheté de Bengale, *Briss. Orn.* iv. p. 132 (1760, *ex Edw.* pl. 59).

Coucou tacheté de Malabar, *Briss. t. c.* p. 136, pl. 11. fig. 2; *Daubent. Pl. Enl.* pl. 294.

Coucou noir de Bengale, *Briss. t. c.* p. 141 (*ex Edw.* pl. 58); *Daubent. Pl. Enl.* pl. 586.

? Coucou tacheté de la Chine, *Buff. Pl. Enl.* pl. 764.

Le Coucou à gros bec, *Levaill. Ois. Afr.* v. p. 59, pl. 214 (1806).

Le Coucou tacheron, *Levaill. t. c.* p. 62, pl. 216.

Cuculus honoratus, *Linn. Syst. Nat.* i. p. 169 (1766, *ex Briss.* pl. 11. fig. 2); *Vieill. Enc. Méth.* p. 1332 (1823); *Blyth, J. A. S. Beng.* xi. p. 913 (1842); *Walden, Ibis*, 1869, p. 327.

Cuculus scolopaceus, *Linn. Syst. Nat.* i. p. 170 (1766, *ex Edw.* pl. 59); *Wald. Ibis*, 1869, p. 327.

Cuculus niger, *Linn. Syst. Nat.* i. p. 170 (1766, *ex Edw.* pl. 58); *Wald. Ibis*, 1869, pp. 327, 335.

? Cuculus maculatus, *Gm. Syst. Nat.* i. p. 415 (1788, *ex Daubent.* pl. 764); *Wald. Ibis*, 1869, p. 336.

Cuculus indicus, *Lath. Ind. Orn.* i. p. 211 (1790).

Cuculus orientalis, var. γ, *Lath. t. c.* p. 211.

Cuculus crassirostris, *Steph. Gen. Zool.* ix. p. 86 (1815, *ex Levaill.* pl. 215); *Vieill. Enc. Méth.* p. 1333 (1823).

Cuculus orientalis (*nec Linn.*), *Horsf. Trans. Linn. Soc.* xiii. p. 178 (1822); *Blyth, J. A. S. Beng.* xi. p. 913 (1842); *Strickl. Ann. & Mag. Nat. Hist.* 1846, p. 400.

Eudynamis orientalis, *Vig. Mem. Raffl.* p. 671 (1830); *Sykes, P. Z. S.* 1832, p. 97; *Jerd. Madras Journ.* xi. p. 220 (1840); *Pearson, J. A. S. Beng.* x. p. 657 (1841); *Blyth, J. A. S. Beng.* 1843, p. 245, 1847, p. 468; *Layard, Ann. & Mag. Nat. Hist.* xii. p. 451 (1854); *Motl. & Dillw. Contr. Nat. Hist. Labuan*, i. p. 55 (1855); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 708 (1856–58); *Swinh. Ibis*, 1861, p. 46; *Irby, t. c.* p. 230; *Jerd. B. Ind.* i. p. 342 (1862); *Blyth, Ibis*, 1863, p. 363; *Gray, Hand-l. B.* ii. p. 221, no. 9072 (1870); *Jerd. Ibis*, 1872, p. 15; *Anderson, Ibis*, 1873, p. 74; *Legge, Ibis*, 1874, p. 16; *Büttik. Notes Leyd. Mus.* 1883, p. 29.

Eudynamis honorata, *Blyth, J. A. S. B.* 1842, p. 912; *Gray, Gen. B.* ii. p. 464 (1847); *Wald. Ibis*, 1869, p. 338; *Gray, Hand-l. B.* ii. p. 220, no. 9068 (1870); *Holdsworth, P. Z. S.* 1872, p. 432; *Hume, Nests & Eggs Ind. B.* p. 139 (1873); *Ball, Str. F.* i. p. 63 (1873); *Hume, t. c.* p. 173; *Adams, t. c.* p. 373; *Ball, Str. F.* ii. p. 394 (1874); *Anders. Ibis*, 1875, p. 142; *Fairbank, Str. F.* iv. p. 255 (1876); *Hume, t. c.* p. 463; *Fairbank, Str. F.* v. p. 297; *Davison & Wendon, Str. F.* vii. p. 79 (1878); *Butler, t. c.* p. 182; *Ball, t. c.* p. 207; *Cripps, t. c.* p. 266; *Hume, Str. F.* viii. p. 89 (1879); *Scully, t. c.* p. 257; *Legge, B. Ceylon*, i. p. 251 (1880); *Vidal, Str. F.* ix. p. 55 (1880); *Butler, t. c.* p. 389; *Reid, Str. F.* x. p. 27

(1881); *Davison, t. c.* pp. 299, 360; *Swinh. & Barnes, Ibis*, 1885, p. 63.

Eudynamis maculata, *Gray, Gen. B.* ii. p. 464 (1847); *David & Oust. Ois. Chine*, p. 60 (1877).

Eudynamis indicus, *Gray, Gen. B.* ii. p. 464 (1847).

Eudynamis australis (*nec Swains.*), *Bp. Consp. Av.* i. p. 101 (1850).

Eudynamis nigra, *Cab. & Heine, Mus. Hein.* iv. p. 49 (1862).

Eudynamis ceylonensis, *Cab. & Heine, Mus. Hein.* iv. p. 51, note (1862).

Eudynamis chinensis, *Cab. & Heine, Mus. Hein.* iv. p. 52, note (1862); *Blyth, Cat. Mamm. & B. Burmah*, p. 81 (1875).

Eudynamis malayana, *Cab. & Heine, Mus. Hein.* iv. p. 52 (1862); *Wald. Ibis*, 1869, p. 339; *Gray, Hand-l. B.* ii. p. 220, no. 9069 (1870); *Wald. Ibis*, 1873, p. 303; *Salvad. Ucc. Borneo.* p. 68 (1874); *Hume, Str. F.* ii. pp. 192, 472 (1874), iii. p. 82 (1875); *Sharpe, Ibis*, 1876, p. 34; *David & Oust. Ois. Chine*, p. 61 (1877); *Hume, Str. F.* vi. p. 162 (1878), viii. pp. 54, 89 (1879); *Sharpe, Ibis*, 1879, p. 245; *id. P. Z. S.* 1879, p. 328; *Bingham, Str. F.* ix. p. 168 (1880); *Hume, t. c.* p. 248; *Kelham, Ibis*, 1881, p. 392; *A. Müll. J. f. O.* 1882, p. 406; *Oates, Handb. B. Brit. Burmah*, ii. p. 119 (1883); *Guillemard, P. Z. S.* 1885, p. 406; *Müll. J. f. O.* 1885, p. 157; *Salvad. Ann. Mus. Civ. Gen.* 1886, p. 581, 1887, p. 569; *Sharpe, Ibis*, 1888, p. 198; *Everett, P. Z. S.* 1889, p. 226; *Sharpe, Ibis*, 1890, p. 12.

*Adult male.* Entire plumage black, very strongly glossed with bluish green: "iris crimson: bill pale bluish green, dusky round the nostrils; legs and feet leaden blue" (*Legge*). Total length 15·2 inches, culmen 1·2, wing 7·6, tail 8, tarsus 1·2.

*Adult female.* Above blackish brown, with an olive gloss; crown, sides of the head, and back of the neck very strongly mottled with broad white shaft-stripes, which are generally shaded towards the forehead with rufous; back and wing-coverts spotted with white; quills, upper tail-coverts, and tail barred with white: beneath white, feathers of the throat with broad black sides, remainder of the under suface of the body and the under wing-coverts with rather broad black angular bars; under surface of the quills brown, partially barred with white: "iris crimson; legs and feet plumbeous; bill greenish grey, gape pinkish flesh-colour" (*E. A. Butler*). Total length 16 inches, culmen 1·2, wing 7·5, tail 7·8, tarsus 1·3.

*Nestling.* Entirely greenish black like the adult male.

The scarcely full-grown young birds have more or less marking on the tail-feathers and the under surface of the quills, and have numerous fulvous spots on the body-feathers. In more than one specimen the breast and abdomen are thickly mottled with buff markings.

There seems to me to be no absolute uniformity in the colour of the young birds, and some are much more spotted than others. If Mr. Whitehead's surmise is correct, that the young female is also black like the male, then it is possible that the less spotted nestlings are males, which remain almost uniform till they take on the adult plumage after their first moult, while the females are even more mottled, foreshadowing the spotted dress which they are about to

assume. The plumage of the adult female also varies, and very old birds appear to me to grow hoary, while the yellowish or reddish tinge on the head and throat may be considered as sure signs of youth.

In a genus like *Eudynamis*, where the males scarcely differ, I have had to look to the females for specific characters, and, judging from this alone, I unhesitatingly say that the hen bird of *E. honorata* (Linn.), is like the hen of *E. malayana*, Cab., and goes through a similar sequence of plumage. The greater size attributed to the Malayan bird cannot be upheld as a distinctive character, as is evidenced by the large series in the Museum.

*Hab.* Indian Peninsula and Ceylon, extending to China and south through the Burmese provinces over the Indo-Malayan Archipelago to Flores.

| | | |
|---|---|---|
| *a*–*e*. Ad. et imm. sk. | Ceylon (*Whyte*). | Seebohm Coll. |
| *f*, *g*. ♂ ♀ ad. sk. | Ragam Corale, Ceylon, July 2. | Hume Coll. |
| *h*–*x*. Ad. et imm. sk. | Ceylon, Nov., Dec., Jan., March (*S. Chapman* and *H. Nevill*). | Tweeddale Coll. |
| *y*, *z*. ♂ ♀ imm. sk. | Rameswaram Island, Nov. (*W. V. Legge*). | Seebohm Coll. |
| *a'*, *b'*. ♂ ad.; *c'*. *d'*, *e'*. ♀ imm. sk. | Laccadives, Feb. (*A. O. H.*). | Hume Coll. |
| *f'*. Juv. st. | India. | Purchased. |
| *g'*. ♀ imm. sk. | Trevandrum, Travancore, Nov. 18. | F. W. Bourdillon [C.]. |
| *h'*, *i'*. ♀ ad. sk. | Anjango, Travancore. | Hume Coll. |
| *k'*. ♂ imm. sk. | Trichinopoly. | Tweeddale Coll. |
| *l'*. ♂ imm. sk. | Tellicherry, Oct. (*R. G. W. R.*). | Tweeddale Coll. |
| *m'*, *n'*. ♀ ad. sk. | Calicut. | Hume Coll. |
| *o'*, *p'*, *q'*. ♂ imm. sk. | Malabar. | Tweeddale Coll. |
| *r'*. ♀ ad. sk. | Coonoor Ghat, Sept. 20 (*R. G. W. R.*). | Tweeddale Coll. |
| *s'*, *t'*. ♂ ♀ ad. sk. | Wynaad, March, April (*R. Davison*). | Tweeddale Coll. |
| *u'*. ♀ ad. sk. | Mysore, Feb. 21. | Hume Coll. |
| *v'*, *w'*. ♂ ad.; *x'*. ♀ ad. sk. | Belgaum, March, Oct. (*E. A. Butler*). | Hume Coll. |
| *y'*, *z'*. [♀] ad. et imm. sk. | Bangalore, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| *a''*. ♂ ad.; *b''*. ♀ imm. sk. | Arcot. | Seebohm Coll. |
| *c''*, *d''*. ♂ ♀ ad.: *e''*. ♀ imm. sk. | Madras. | Rev. H. H. Baber [P.]. |
| *f''*. ♂ ad. sk. | N.W. of Rajamundry, May 30 (*W. T. Blanford*). | Hume Coll. |
| *g''*. ♀ imm. sk. | Deccan (*Sykes*). | India Museum. |

| | | |
|---|---|---|
| *h''*. ♀ ad. sk. | Deccan (*Burgess*). | Seebohm Coll. |
| *i''–n''*. ♂ ad.; *o''*. ♀ ad. sk. | Ahmednuggur District, April, July, Sept., Oct. (*S. B. Fairbank*). | Tweeddale Coll. |
| *p''*, *q''*. ♂ ad. sk. | Raipur. | Hume Coll. |
| *r''*, *s''*. ♂ ad. sk. | Khandeish, May, Sept. (*J. Davidson*). | Hume Coll. |
| *t''*, *u''*. ♂ ♀ ad. sk. | Mhow (*R. Blackburn*). | Seebohm Coll. |
| *v''*, *w''*. ♂ ♀ ad. sk. | Mhow, June 7. | Colonel Swinhoe [P.]. |
| *x''*. ♀ ad. sk. | Rajkote, Kattiwar, June 19. | Colonel Hayes Lloyd [P.]. |
| *y''*, *z''*. ♂ ♀ ad. sk. | Deesa, July 9 (*E. A. Butler*). | Hume Coll. |
| *a*³. ♂ ad.; *b*³, *c*³. ♀ ad. sk. | Anadra, Mt. Aboo, May, July. | Hume Coll. |
| *d*³. ♂ imm. sk. | Delhi. | Hume Coll. |
| *e*³, *f*³. ♂ ad. sk. | Umbala, Oct. | Hume Coll. |
| *g*³, *h*³. ♂ ♀ ad. sk. | Dehra Dhoon, April, Sept. | Hume Coll. |
| *i*³, *k*³. ♂ ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *l*³. ♀ ad. sk. | Kumaon. | Tweeddale Coll. |
| *m*³–*q*³. ♂ ad.; *r*³–*v*³. ♀ ad. et imm. sk. | Etawah, Sept., Nov. | Hume Coll. |
| *w*³. ♀ ad. sk. | Cawnpore, April 30 (*W. E. Brooks*). | Hume Coll. |
| *x*³–*a*⁴. Ad. et imm. sk. | Saugor. | Hume Coll. |
| *b*⁴. ♂ ad.; *c*⁴, *d*⁴. ♀ ad. sk. | Futtehgurh, June (*A. Anderson*). | Seebohm Coll. |
| *e*⁴, *f*⁴. ♂ ad.; *g*⁴. ♀ ad. sk. | Lucknow, May. | Colonel Way [P.]. |
| *h*⁴. ♂ ad. sk. | Oudh, March. | Hume Coll. |
| *i*⁴. ♂ ad. sk. | Behar. | Hodgson Coll. |
| *k*⁴, *l*⁴, *m*⁴. ♂ ad. sk. | Nepal. | Hodgson Coll. |
| *n*⁴–*q*⁴. ♂ ad. et juv.; *r*⁴, *s*⁴, *t*⁴. ♀ ad. sk. | Nepal Valley, May, July (*J. Scully*). | Hume Coll. |
| *u*⁴. ♀ ad. sk. | Darjeeling Terai, April 20. | Hume Coll. |
| *v*⁴. ♀ imm. sk. | Bhotan (*Pemberton*). | India Museum. |
| *w*⁴. ♂ ad. sk. | Sadhyia, Assam, May 22 (*J. Cockburn*). | Hume Coll. |
| *x*⁴, *y*⁴. ♂ ad.; *z*⁴. ♀ imm. sk. | N. Khasia Hills, April, Dec. (*A. W. Chennell*). | Tweeddale Coll. |
| *a*⁵, *b*⁵, *c*⁵. ♀ ad. sk. | Mymensing (*A. W. Chennell*). | Tweeddale Coll. |
| *d*⁵. ♂ ad. sk. | Cachar, Jan. 28 (*A. O. H.*). | Hume Coll. |
| *e*⁵, *f*⁵. ♂ ♀ ad.; *g*⁵. ♀ imm. sk. | Dacca. | Hume Coll. |
| *h*⁵, *i*⁵. ♂ ad.; *k*⁵–*n*⁵. ♀ ad. sk. | Calcutta, Dec. to March. | Hume Coll. |
| *o*⁵, *p*⁵. ♂ ad.; *q*⁵, *r*⁵. ♀ ad. sk. | Akyab, March (*J. Armstrong*). | Hume Coll |

| | | |
|---|---|---|
| $s^5$–$w^5$. ♂ ad.; $x^5$. ♀ juv. sk. | Thayetmyo, March to May (*E. W. Oates*). | Hume Coll. |
| $y^5$. ♂ imm. sk. | Thayetmyo, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| $z^5$–$k^6$. Ad. et imm. sk. | Pegu, Feb. to June (*E. W. O.*). | Oates Coll. |
| $l^6$, $m^6$. ♂ ♀ ad. sk. | Rangoon, July (*R. G. W. R.*). | Tweeddale Coll. |
| $n^6$, $o^6$, $p^6$. ♂ ad.; $q^6$, $r^6$, $s^6$. ♀ ad. sk. | Tonghoo, Feb., April, May (*R. G. W. R.*). | Tweeddale Coll. |
| $t^6$. ♂ ad. sk. | Little Coco Islands, March. | Hume Coll. |
| $u^6$, $v^6$, $w^6$. ♂ ad.; $x^6$. ♀ ad. sk. | South Andamans, Dec., Jan., March (*R. G. W. R.*). | Tweeddale Coll. |
| $y^6$. ♂ ad. sk. | Mt. Harriett, S. Andamans, Dec. (*W. Davison*). | Hume Coll. |
| $z^6$. ♂ ad.; $a^7$. ♀ imm. sk. | Port Blair, S. Andamans, Feb. (*W. Davison*). | Hume Coll. |
| $b^7$. ♂ ad. sk. | Ross Island, Dec. (*R. G. W. R.*). | Tweeddale Coll. |
| $c^7$, $d^7$. ♂ ad.; $e^7$, $f^7$. ♀ ad. sk. | Trinkut Is., Nicobars, Dec. to Feb. | Tweeddale Coll. |
| $g^7$, $h^7$. ♂ ad.; $i^7$, $k^7$. ♀ ad. sk. | Camorta Island, Dec. (*R. J. Wimberley*). | Tweeddale Coll. |
| $l^7$, $m^7$. ♂ ♀ ad. sk. | Teressa Island, Jan., Feb. (*W. Davison*). | Hume Coll. |
| $n^7$. ♂ ad. sk. | Pahpoon, Feb. 22 (*W. Davison*). | Hume Coll. |
| $o^7$. ♂ ad.; $p^7$, $q^7$. ♀ ad. sk. | Thatone, Dec., May (*W. Davison*). | Hume Coll. |
| $r^7$. ♂ ad. sk. | Kanee, Houngthraw R., March 7 (*W. Davison*). | Hume Coll. |
| $s^7$, $t^7$. ♀ ad. sk. | Attaran River, March (*W. Davison*). | Hume Coll. |
| $u^7$, $v^7$. ♂ ♀ ad. sk. | Akhya, Zanee River, Feb. (*C. T. Bingham*). | Hume Coll. |
| $w^7$. ♂ ad. sk. | Karope, Moulmein Dist., March 24 (*W. Davison*). | Hume Coll. |
| $x^7$, $y^7$, $z^7$. ♂ ad.; $a^8$, $b^8$. ♀ ad. sk. | Amherst, Jan., March, July (*W. Davison*). | Hume Coll. |
| $c^8$–$n^8$. ♂ ad.; $o^8$–$t^8$. ♀ ad. sk. | Tavoy, March to May (*W. Davison*). | Hume Coll. |
| $u^8$. ♀ ad. sk. | Shymootee, May 3 (*W. Davison*). | Hume Coll. |
| $v^8$–$a^9$. ♂ ad. et juv.; $b^9$. ♀ ad. sk. | Mergui, Jan., April, Nov. (*W. Davison*). | Hume Coll. |
| $c^9$, $d^9$. ♂ imm.; $e^9$. ♀ ad. sk. | Bopyin, Dec. (*W. Davison*). | Hume Coll. |
| $f^9$. ♀ ad. sk. | Siam. | Tweeddale Coll. |
| $g^9$. ♀ ad. sk. | Bankok, April (*Capt. Conrad*). | R. B. Sharpe, Esq. [P.]. |
| $h^9$, $i^9$. ♂ ad.; $k^9$, $l^9$, $m^9$. Ad. sk. | Saigon, Cochin China. | M. E. Pierre [P.]. |
| $n^9$, $o^9$. ♂ ♀ ad. sk. | China. | Seebohm Coll. |

| | | |
|---|---|---|
| $p^9$, $q^9$. ♂ ♀ ad. sk. | Canton. | Tweeddale Coll. |
| $r^9$, $s^9$. ♂ ♀ ad. sk. | Canton, April (*R. Swinhoe*). | Seebohm Coll. |
| $t^9$. ♂ ad. sk. | Amoy, June (*R. Swinhoe*). | Seebohm Coll. |
| $u^9$. ♂ imm. sk. | Swatow (*R. Swinhoe*). | Seebohm Coll. |
| $v^9$–$y^9$. ♂ ad. et juv.; $z^9$, $a^{10}$, $b^{10}$. ♀ ad. sk. | Hainan, Feb., March (*R. Swinhoe*). | Seebohm Coll. |
| $c^{10}$, $d^{10}$, $e^{10}$. ♂ ad.; $f^{10}$. ♀ ad. sk. | Kossoum, Malay Penins., April, May (*J. Darling*). | Hume Coll. |
| $g^{10}$, $h^{10}$, $i^{10}$. ♂ ad.; $k^{10}$–$n^{10}$. ♀ ad. sk. | Salang, Island of Tonka, Feb., March (*J. Darling*). | Hume Coll. |
| $o^{10}$. ♂ ad. sk. | Province Wellesley, Dec. | Dr. A. McKinlay [P.]. |
| $p^{10}$–$t^{10}$. ♂ ad. et imm.; $u^{10}$, $v^{10}$. ♀ ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| $w^{10}$, $x^{10}$. ♂ ♀ ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| $y^{10}$, $z^{10}$, $a^{11}$. Imm. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| $b^{11}$, $c^{11}$. ♀ ad. sk. | Malacca, July (*W. Davison*). | Hume Coll. |
| $d^{11}$. ♂ ad. sk. | Pulo Nongsa. | Forbes Coll. |
| $e^{11}$, $f^{11}$. ♂ ♀ ad. sk. | Sumatra (*Wallace*). | Seebohm Coll. |
| $g^{11}$, $h^{11}$. ♂ ad.; $i^{11}$. ♀ ad. sk. | Java (*Horsfield*). | India Museum. |
| $k^{11}$, $l^{11}$, $m^{11}$. ♂ ad. sk. | Java. | Seebohm Coll. |
| $n^{11}$. ♀ ad. sk. | Kuraman, Borneo. | H. Veitch, Esq. [P.]. |
| $o^{11}$, $p^{11}$. ♂ ad. sk. | Labuan (*H. T. Ussher*). | Tweeddale Coll. |
| $q^{11}$. ♂ ad. sk. | Labuan (*Sir Hugh Low*). | Seebohm Coll. |
| $r^{11}$. Imm. sk. | Sarawak (*A. H. Everett*). | Tweeddale Coll. |
| $s^{11}$, $t^{11}$. ♂ ad.; $u^{11}$. ♀ ad. sk. | Flores. | Wallace Coll. |
| $v^{11}$, $w^{11}$. Skeleton. | India. | |
| $x^{11}$. Skeleton. | Nepal. | Hodgson Coll. |
| $y^{11}$. Skeleton. | Java. | Purchased. |

## 2. Eudynamis mindanensis.

Coucou tacheté de Mindanao, *Briss. Orn.* iv. p. 130 (1760).

Cuculus mindanensis, *Linn. Syst. Nat.* i. p. 169 (1766, *ex Briss.*); *Vieill. Enc. Méth.* p. 1337 (1823); *Wald. Ibis*, 1869, p. 327.

Coucou tacheté de l'Isle de Panay, *Sonn. Voy. Nouv. Guin.* p. 120, pl. 78 (1776).

Cuculus variegatus, *Scop. Del. Fl. et Faun. Insub.* ii. p. 89 (1786).

Cuculus panayanus, *Gm. Syst. Nat.* i. p. 413 (1788); *Vieill. Enc. Méth.* p. 1336 (1823); *Wald. Ibis*, 1869, p. 336.

Eudynamis mindanensis, *Cab. & Heine, Mus. Hein.* iv. p. 52 (1862); *Wald. Ibis*, 1869, p. 340 (pt.); *Gray, Hand-l. B.* ii. p. 221, no. 9070; *Wald. Trans. Z. S.* ix. p. 162 (1875); *Sharpe, Trans. Linn. Soc., Zool.* 1877, pp. 320, 351; *Tweedd. P. Z. S.* 1877, pp. 536, 543, 691, 823, 1878, p. 946, 1879, p. 70; *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 656 (1881); *Meyer, Sitz. Abhandl. Ges. Isis*, p. 17 (1884); *Blasius, Ornis*, 1888, p. 306; *Everett, P. Z. S.* 1889, p. 225; *Whitehead, Ibis*, 1890, p. 46.

Eudynamis niger (*nec Linn.*), *Brügg. Abhandl. nat. Ver. Brem.* v. p. 57 (1876).

Eudynamis orientalis (*nec Linn.*), *Salvad. Ann. Mus. Civ. Gen.* ix. p. 53 (1877); *Tweedd. P. Z. S.* 1878, p. 613.

*Adult male.* Similar in plumage to *E. honorata*: "bill greyish green; legs dark lead-grey; claws black; iris crimson" (*A. H. Everett*). Total length 14·7 inches, culmen 1·2, wing 7·4, tail 7·6, tarsus 1·3.

*Adult female.* Similar in plumage to *E. honorata* but with the entire upper half of the head rufous, streaked or mottled with black; bars on the chest, abdomen, and under tail-coverts slightly narrower: "bill pale green, deep orange at base; legs yellow, tinged green on the tarsus; nails grey; iris chrome-yellow" (*A. H. Everett*). Total length 14·5 inches, culmen 1·25, wing 7·6, tail 7·5, tarsus 1·3.

*Hab.* Philippines and Sanghir group of islands.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Philippine Islands. | Gould Coll. |
| *b*. ♂ ad. sk. | Monte Alban, Luzon, Feb. (*A. Everett*). | Tweeddale Coll. |
| *c*, *d*. ♂ ad. sk. | Guimaras, March (*A. B. Meyer*). | Tweeddale Coll. |
| *e*. ♂ ad. sk. | Mactan, Negros, Aug. (*A. Everett*). | Tweeddale Coll. |
| *f*, *g*. ♂ ad.; *h*–*l*. ♀ juv. sk. | Zamboanga, Mindanao, Mar., April (*A. Everett*). | Tweeddale Coll. |
| *m*, *n*. ♀ imm. sk. | Ayala, Mindanao, Dec. | E. L. Moseley, Esq. [P.]. |
| *o*, *p*. ♂ ad. sk. | Butuan, Mindanao, May (*A. Everett*). | Tweeddale Coll. |
| *q*. ♀ ad. sk. | Basilan, May (*A. Everett*). | Tweeddale Coll. |
| *r*, *s*. ♂ ad.; *t*. ♀ imm. sk. | Malanipa. | Voy. H.M.S. 'Challenger.' |
| *u*, *v*. ♂ ad.; *w*, *x*. ♀ ad. et juv. sk. | Taguso, Palawan, July, Aug. | John Whitehead, Esq. [C.]. |
| *y*, *z*. ♂ ♀ ad. sk. | Sanghir Island. | Tweeddale Coll |
| *a'*. ♂ ad. sk. | Sanghir Island. | Seebohm Coll. |
| *b'*. Skull. | | Dr. Günther [C.]. |

### 3. Eudynamis orientalis.

Coucou noir des Indes, *Briss. Orn.* iv. p. 142, pl. 10. fig. 1 (1769).

Coucou tacheté des Indes, *Briss. t. c.* p. 134, pl. 10. fig. 2.

Cuculus orientalis, *Linn. Syst. Nat.* i. p. 168 (1766, *ex Briss.* fig. 1); *Bonn. et Vieill. Enc. Méth.* p. 1331 (1823); *S. Müll. Verh. Land- en Volk.* p. 176, note (1839–44); *Schl. Mus. Pays-Bas*, Cuculi, p. 16 (1864, pt.); *Wald. Ibis*, 1869, p. 327.

Cuculus punctatus, *Linn. Syst. Nat.* i. p. 170 (1766, *ex Briss.* fig. 2); *Wald. Ibis*, 1869, p. 327.

? Coucou noir des Indes, *Daubent. Pl. Enl.* vi. pl. 174.

Coucou tacheté des Indes Orientales, *Daubent. t. c.* vi. pl. 771.

Eudynamis punctatus, *S. Müll. Verh. Land- en Volk.* p. 176 (1839–44); *Gould, P. Z. S.* 1860, p. 359; *Schl. Mus. Pays-Bas*, Cuculi, p. 19 (1864); *Finsch, Neu-Guin.* p. 159 (1865).

Eudynamis orientalis, *Gray, Gen. B.* ii. p. 464 (1847, pt.); *Peale, U.S. Expl. Exp.* p. 138 (1848); *Cass. op. cit.* 1858, p. 249; *Schl. Mus. Pays-Bas*, Cuculi, p. 16 (1864, pt.); *Cab. & Heine, Mus. Hein.* iv. p. 53, note (1862); *Wald. Ibis*, 1869, p. 341; *Gray, Hand-l. B.* ii. p. 221, no. 9072; *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875); *Salvad. Ann. Mus. Civ. Gen.* viii. p. 373 (1876), xiii. p. 461 (1878), xiv. p. 644 (1879); *id. Orn. Papuasia etc.* i. p. 359 (1880); *Meyer, Verh. z.-b. Ges. Wien*, 1881, p. 767; *Blas. u. Nehrk. Verh. z.-b. Ges. Wien*, 1882, p. 418; *Pleske, Bull. Acad. Pétersb.* xxix. p. 525 (1884); *Salvad. Agg. Orn. Papuasia*, p. 51 (1889).

Eudynamis ransomi, *Bp. Consp. Av.* i. p. 101 (1850); *Gray, P. Z. S.* 1860, p. 359; *Wall. P. Z. S.* 1863, p. 23; *Wald. Ibis*, 1869, p. 343, pl. 10; *Gray, Hand-l. B.* ii. p. 221, no. 9073 (1870); *Wald. Trans. Z. S.* ix. p. 162 (1875).

Cuculus punctatus, var. ceramensis, *Forsten in Mus. Lugd., fide Bp. Consp. Av.* i. p. 101 (1850).

Eudynamis picatus, *Gray, Gen. B.* ii. p. 464 (1847); *id. P. Z. S.* 1860, p. 359; *Rosenb. Natuurk. Tijdschr. Nederl. Ind.* xxv. p. 229 (1863, pt.); *id. J. f. O.* 1864, p. 117 (pt.); *Schl. Mus. Pays-Bas*, Cuculi, p. 19 (1864).

? Eudynamis niger (*nec Linn.*), *Finsch, Neu-Guinea*, p. 159 (1865).

? Eudynamis rufiventer (*nec Less.*), *Wald. Trans. Z. S.* ix. p. 162 (1875).

*Adult male.* Black, with a strong greenish-blue gloss: "bill pale dusky greenish; iris red; legs dusky bluish" (*A. R. Wallace*). Total length 18·3 inches, culmen 1·3, wing 8·6, tail 9·3, tarsus 1·35.

*Adult female.* Above glossy blue-black, shaded with green on the wings, with cinnamon-coloured spots on the back and wing-coverts, and bars of that colour on the quills, upper tail-coverts, and tail; beneath tawny buff, with irregular narrow partial black bars; chin and upper throat blue-black like the crown, with a broad white basal band. Total length 19·5 inches, culmen 1·4, wing 8·6, tail 9, tarsus 1·4.

In less adult females the black of the crown and back of the neck is spotted with chestnut, the spots on the back are more numerous, and the black on the upper throat is mottled with rufous buff.

*Immature male.* General plumage buff, with a darker rufous shade on the quills, tail, and underparts; back, wings, and tail with broad bars of dark brown, and with irregular patches of glossy black feathers scattered over the upper parts generally; a few of the tail-feathers black; chin and sides of the upper half of the throat black; breast almost without bars. Total length 15 inches, culmen 1·2, wing 8, tail 8·4, tarsus 1·35.

*Hab.* Moluccas.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Lombock. | Wallace Coll. |
| *b.* ♂ ad. sk. | Morty Island. | Eyton Coll. |
| *c.* Juv. sk. | Halmahera. | Wallace Coll. |
| *d, e.* ♂ ad.; *f.* ♀ ad. sk. | Bouru. | Wallace Coll. |
| *g, h.* ♂ ♀ ad. sk. | Bouru (*A. R. Wallace*). | Tweeddale Coll |
| *i, k.* ♂ ad.; *l–o.* Imm. sk. | Ceram. | Wallace Coll. |
| *p–r.* Imm. sk. | Ceram (*A. R. Wallace*). | Tweeddale Coll. |

### 4. Eudynamis cyanocephala.

Blue-headed Cuckow, *Lath. Syn. Suppl.* ii. p. 137.

Cuculus cyanocephalus, *Lath. Ind. Orn.* ii. *Suppl.* p. 30 (1801); *Steph. Gen. Zool.* ix. p. 110 (1815); *Vieill. Enc. Méth.* p. 1336 (1823).

Flinder's Cuckow, *Lath. Gen. Hist. B.* iii. p. 308 (1822).

Cuculus flindersii, "*Lath. MS.*," *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 305 (1826).

Eudynamis orientalis (*nec L.*), *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 304 (1826); *Schl. Mus. Pays-Bas*, Cuculi, p. 20, note *n* (1864).

Eudynamis flindersii, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 305 (1826); *Gould, B. Austr.* iv. pl. 91 (1848); *Reichb. Vög. Neuholl*, ii. p. 216 (1849); *McGill. Voy. 'Rattlesnake,'* ii. p. 357 (1852); *Gray, P. Z. S.* 1858, p. 195; *id. Cat. B. New Guin.* p. 44 (1859); *Cab. & Heine, Mus. Hein.* iv. p. 53 (1862); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 229 (1863); *id. J. f. O.* 1864, p. 117; *Gould, Handb. B. Austr.* i. p. 632 (1865); *Ramsay, P. Z. S.* 1875, p. 601.

Eudynamis australis, *Swains. An. in Menag.* p. 344 (1838); *Strickl. J. A. S. Beng.* 1844, p. 390, note; *Peale, U.S. Expl. Exped.* 1848, p. 139.

Cuculus orientalis, pt., *Schl. Mus. Pays-Bas*, Cuculi, p. 16 (1864).

Eudynamis cyanocephala, *Wald. Ibis*, 1869, p. 341; *Gray, Hand-l. B.* ii. p. 221, no. 9071 (1870); *Wald. Trans. Z. S.* ix. p. 162 (1875); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 310, 491 (1877); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 461 (1878); *Ramsay, Proc. Linn. Soc. N. S. Wales*, iii. p. 257 (1878); *D'Alb. & Salvad. Ann. Mus. Civ. Gen.* xiv. p. 44 (1879); *Salvad. Orn. Papuasia*, p. 365 (1880); *Ramsay, Proc. Linn. Soc. N. S. Wales*, vii. p. 21 (1882); *Finsch, Vög. d. Südsee*, p. 16 (1884); *Meyer, Sitz. Gesellsch. Isis*, 1884, Abh. i. p. 17; *id. Zeitschr. ges. Orn.* i. p. 275 (1884); *North, Proc. Linn. Soc. N. S. Wales*, ii. p. 554; *Grant, P. Z. S.* 1888, p. 191; *Ramsay, Tab. List*, p. 15 (1888); *Salvad. Agg. Orn. Papuasia*, p. 51 (1889).

Eudynamis picatus (*Müll.*), *Sclat. P. Z. S.* 1877, p. 106, 1878, p. 671; *Finsch, P. Z. S.* 1879, p. 12; *Layard, Ibis*, 1880, p. 300.

*Adult male.* Black, with a bright greenish-blue gloss. Total length 16 inches, culmen 1·2, wing 8·1, tail 8·4, tarsus 1·3.

*Adult female.* Upper half of the head and back of the neck glossy greenish black; remainder of the upper parts dark brown, with an olive gloss; back and wing-coverts thickly spotted with white; quills, rump, and tail-feathers with numerous white bars; chin and upper half of the throat black, irregularly mottled with white spots; a broad white loral band; remainder of the underparts white, partially washed with rufous-buff, and with narrow, somewhat irregular, black bars; under wing-coverts like the breast; under surface of the quills dusky brown, partially barred with white.

*Immature* (type of *Eudynamis flindersii*, Vig. & Horsf.). General plumage buff; a large blue-black patch on the back of the head and nape; a band of the same colour extending from the back of the eye down the sides of the neck, widening out at the base; back and wing-coverts very irregularly mottled with dark brown, and a few greenish-

black feathers on the wing-coverts and centre of the back; quills and tail strongly barred with dark brown; under surface with partial narrow brownish-black bars almost confined to the lower throat, chest, and flank; some patches of black feathers on the sides of the throat, and some of the feathers of the lower throat and chest washed in patches with chestnut-buff; under wing-coverts uniform rufous-buff; quills brown, barred with very pale buff. Total length 16 inches, culmen 0·95, wing 8·2, tail 8·7, tarsus 1·2.

*Hab.* Australia and New Guinea, to Goram and Timor.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Tasmania. | Seebohm Coll. |
| *b*. Juv. sk. | Australia. | Linnean Soc. (Type of *E. flindersii*.) |
| *c*. ♀ ad.; *d*. ♂ imm. sk. | Australia. | Forbes Coll. |
| *e*. ♂ ad. sk. | Australia. | Purchased. |
| *f*. Imm. sk. | Australia. | Seebohm Coll. |
| *g*. ♂ ad.; *h*. ♀ imm. sk. | New South Wales. | Seebohm Coll. |
| *i*. ♂ ad. sk. | Port Macquarie, N. S. W., Dec. 2. | Hume Coll. |
| *k*. ♀ ad. sk. | Hunter River, N. S. W. | Seebohm Coll. |
| *l*. ♂ ad.; *m–p*. Imm. sk. | Queensland. | Seebohm Coll. |
| *q*, *r*. ♂ ad.; *s*, *t*. ♀ imm. sk. | South Queensland. | Tweeddale Coll. |
| *u*, *v*. ♀ ad. et imm.; *w–y*. ♂ imm. sk. | Cape York. | Tweeddale Coll. |
| *z*, *a'*. ♂ ♀ ad.; *b'*, *c'*. ♂ ♀ imm. sk. | Cape York (*J. T. Cockerell*). | Salvin-Godman Coll. |
| *d'*. ♂ ad.; *e'*. ♀ imm. sk. | Port Albany (*Coxen*). | Tweeddale Coll. |
| *f'*. ♂ ad.; *g'*. ♀ imm. sk. | Port Essington (*J. Macgillivray*). | Voy. H.M.S. 'Rattlesnake.' |
| *h'*, *i'*. ♂ ♀ ad. sk. | Port Essington | Dr. Sibbald [P.]. |
| *k'*. ♂ imm. st. | W. Australia. | Sir G. Grey [P.]. |
| *l'*. ♀ imm. sk. | Yule Island, Dec. (*Dr. James*). | Seebohm Coll. |
| *m'*, *n'*. ♀ imm. sk. | S.E. New Guinea. | Seebohm Coll. |
| *o'*. ♂ ad. sk. | Dorey. | Wallace Coll. |
| *p'*. ♀ imm. sk. | Goram. | Wallace Coll. |
| *q'*. ♀ juv. sk. | E. Timor. | Wallace Coll. |

### 5. Eudynamis rufiventer.

Coucou tacheté des Indes Orientales, *Daub. Pl. Enl.* vi. pl. 771 (1783).

Cuculus rufiventer, *Less. Voy. Coq., Zool.* i. p. 623 (1828); *id. Traité*, p. 150 (1831).

Eudynamis rufiventer, *Less. Compl. Buff., Ois.* p. 625 (1838); *Gray, Gen. B.* ii. p. 464 (1847); *Wald. Ibis*, 1869, p. 344; *Gray, Hand-l. B.* ii. p. 221, no. 9074; *Wald. Trans. Z. S.* ix. p. 162 (1875); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 461 (1878); *id. Atti R. Accad.*

*Torino*, xiii. p. 318 (1878); *id. Orn. Papuasia*, p. 368 (1880); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Guillem. P. Z. S.* 1885, p. 625; *Salvad. Orn. Papuasia*, App. p. 51 (1889).

Eudynamis picatus, *S. Müll. Verh. Land- en Volk.* p. 876, note (1839–44); *Bp. Consp. Av.* i. p. 101 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 55, note (1862); *Cab. & Reichen. J. f. O.* 1876, p. 324.

Eudynamis punctatus (*nec Linn.*), pt., *Bp. Consp. Av.* i. p. 101 (1850); *Gray, Cat. B. New Guin.* p. 40 (1859); *id. P. Z. S.* 1859, p. 159, 1861, p. 437.

Eudynamis rufiventer, *Sclat. Journ. Linn. Soc., Zool.* ii. p. 166 (1858).

Eudynamis orientalis, pt., *Finsch, Neu-Guin.* p. 159 (1865).

Eudynamis cyanocephala (*nec Lath.*), *Salvad. Ann. Mus. Civ. Gen.* ix. p. 17 (1876).

*Adult male.* Black, with a greenish-blue gloss. Total length 16·4 inches, culmen 1·25, wing 8·1, tail 8·5, tarsus 1·3.

*Adult female.* Upper half of the head and back of the neck black, with terminal chestnut shaft-stripes, slightly rounder in form towards the sides and base of the neck; remainder of the upper parts olive-shaded black, and thickly mottled with rufous and buff, in the form of spots on the back and wing-coverts, and of bars on the quills, upper tail-coverts, and tail: the bars on the tail arched inwards as in the last two species; under surface buff; chin and upper throat rufous and black, mottled like the crown; a distinct white loral band bordering the dark portion of the throat; remainder of the underparts of the body and the under wing-coverts narrowly barred with black, broadest on the lower throat, where the bars on the feathers are connected by black shaft-bands. Total length 15·9 inches, culmen 1·2, wing 7·6, tail 7·6, tarsus 1·3.

*Immature.* Above mottled rufous and black in equal proportions; crown and back of the neck mostly chestnut, with the black condensed on the nape, down the centre of the hind neck, and at the sides of the base of the hind neck; mantle broadly spotted or partially barred with chestnut; quills, upper tail-coverts, and tail distinctly barred: beneath rich tawny buff, crossed by numerous narrow black bars slightly broader on the lower half of the throat; chin and upper half of the throat washed with chestnut, mottled with the black of the base and sides of the feathers; a distinct rufous-white loral band; under wing-coverts like the breast; under surface of the quills brownish black barred with rufous: "bill blackish grey; iris orange-red; legs olive" (*Woodford*). Total length 15·5 inches, culmen 1·05, wing 7·1, tail 8·2, tarsus 1·3.

*Hab.* New Guinea and the adjacent Papuan Islands.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Blanche Bay, New Britain, June 12 (*G. E. Richards*). | Seebohm Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Duke of York Island (*G. Brown*). | Tweeddale Coll. |
| *d*, *e*. ♂ ♀ ad. sk. | Duke of York Island. | Rev. G. Brown [C.]. |
| *f*. ♀ imm. sk. | Aola, Guadalcanar, Solomon Is., June 6. | C. M. Woodford, Esq. [P.]. |

### 6. Eudynamis melanorhyncha.

Eudynamis melanorhyncha, *S. Müll. Verh. Land- en Volk.* p. 176, note (1839–44); *Gray, Gen. B.* ii. p. 464 (1847); *Bp. Consp. Av.* i. p. 101 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 55, note (1862); *Wald. Ibis*, 1869, p. 344; *Gray, Hand-l. B.* ii. p. 221, no. 9075; *Wald. Trans. Z. S.* viii. pp. 53, 112 (1874); *Salvad. Ann. Mus. Civ. Genov.* 1875, p. 650; *Brügg. Abhandl. nat. Ver. Brem.* v. p. 59 (1876); *Lenz, J. f. O.* 1877, p. 371; *Meyer, Ibis*, 1879, p. 69; *Guillem. P. Z. S.* 1885, p. 550; *Blas. Zeitschr. ges. Orn.* 1886, p. 96.

Eudynamis facialis, *Wall. P. Z. S.* 1862, p. 339; *Walden, Ibis*, 1869, p. 345; *Gray, Hand-l. B.* ii. p. 221, no. 9076 (1870).

Eudynamis orientalis (*nec L.*), *Peale, U.S. Expl. Exped.* p. 137 (1848); *Hartl. Arch. f. Naturg.* xviii. p. 107 (1852).

*Adult male.* General plumage black, with a strong blue gloss only slightly tinted with green; bill black; iris red; legs dusky slate-colour. Total length 16·3 inches, culmen 1·25, wing 8·4, tail 8·3, tarsus 1·3.

*Adult female.* Above chestnut, evenly barred with olive-black, except on the back of the neck and upper half of the head, which parts are much darker and more mottled; chin and upper half of the throat black and chestnut like the crown, separated from the similar colouring of the head by a broad white loral band; remainder of the underparts buff, with numerous narrow wavy black bars, broadest on the lower half of the throat; under wing-coverts similar to the breast and inclining to white on the edge of the wing; under surface of the quills rufous, slightly paler than the upper surface, and similarly barred with black; bill black; iris red. Total length 15 inches, culmen 1·15, wing 7·7, tail 7·5, tarsus 1·2.

*Immature.* Above uniform glossy dusky olive, shading into greenish black on the upper half of the head and back of the neck; tail with a very narrow rusty end; chin and upper throat black, passing into dusky stone-grey, and then into rufous-buff on the chest and remainder of the underparts; under wing-coverts nearly uniform buff; quills uniform dusky black. Total length 15·5 inches, culmen 1·15, wing 7·6, tail 7·8, tarsus 1·3.

The nestling is probably entirely black glossed with green; in the next stage the bars on the breast and under wing-coverts are very irregularly assumed and the bars on the tail are partially visible; next the green gloss on the upper parts of the head and neck changes more into blue, and the back and wings become partially mottled with rufous bars, and the tail assumes the full-banded appearance of the adult female. At this stage the uniform black throat becomes mottled with rufous.

*Hab.* Celebes and the Sula Islands.

| | | |
|---|---|---|
| *a*. Imm. sk. | Celebes. | W. W. Saunders, Esq. [P.]. |
| *b*. Imm. sk. | Celebes. | Purchased. |

| | | |
|---|---|---|
| *c*, *d*. ♂ ad.; *e*, *f*. Imm. sk. | Celebes. | Seebohm Coll. |
| *g*. ♀ ad. sk. | Celebes. | Tweeddale Coll. |
| *h*. ♂ ad.; *i*. Imm. sk. | N. Celebes. | Tweeddale Coll. |
| *k*. ♂ ad.; *l*. ♀ imm. sk. | Menado, N. Celebes. | Wallace Coll. |
| *m*. Juv. sk. | Menado. | Tweeddale Coll. |
| *n*. Ad.; *o*. Juv. sk. | Menado. | Hume Coll. |
| *p*. Ad.; *q*. Juv. sk. | Menado. | Gould Coll. |
| *r*. ♀ ad. sk. | Makassar. | Wallace Coll. |
| *s*, *t*. ♂ ad. sk. | Makassar (*A. R. Wallace*). | Tweeddale Coll. |
| *u*. Ad. st. | Celebes. | Purchased. |
| *v*. ♂ ad. sk. | Sula Islands. | Wallace Coll. (Type of *E. facialis*.) |

## 15. MICRODYNAMIS.

Type.

Microdynamis, *Salvad. Ann. Mus. Civ. Gen.* xii. p. 461 (1878). M. parva.

*Range*. New Guinea.

### 1. Microdynamis parva.

Eudynamis parva, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 986 (1875).
Microdynamis parva, *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 461 (1878); *id. Orn. Papuasia*, i. p. 371 (1880); *Meyer, Zeitschr. ges. Orn.* iii. p. 12, pl. 5. fig. 2 (1886); *Sharpe in Gould's B. New Guin.* iv. pl. 6 (1888); *Salvad. Agg. Orn. Papuasia*, p. 51 (1889).
Rhamphomantis rollesi, *Ramsay, Proc. Linn. Soc. N. S. Wales*, viii. p. 23 (1883); *Salvad. Ibis*, 1884, p. 354.

*Adult male*. General plumage brown, with an olive shade on the back and tail; entire upper half of the head and back of the neck black, as well as a broad moustachial band from the lores to below the cheeks and ear-coverts; cheeks white; ear-coverts rufous-buff; edges of the wing-feathers washed with pale rufous; chin and throat clear rufous-buff, passing into pale brown on the remainder of the body; under wing-coverts rufous-buff; quills brown, with broad rufous-buff inner edges; bill and legs black. Total length 9 inches, culmen 0·75, wing 4·4, tail 4, tarsus 0·9.

*Adult female*. Differs from the male in having no black on the head, but a broad glossy greenish-black collar at the back of the neck; tail-feathers obscurely notched with rufous on the inner webs; sides of head brown, with a white band beneath the eye, extending over the lower ear-coverts and ending in a rufous-buff patch, separating the black collar from the similarly coloured moustachial band which extends down the sides of the throat; upper half of the throat rufous-buff; remainder of the body brown, with very obscure bars: "iris with red ring, bill blue-black, legs and feet lavender-blue" (*H. O. Forbes*). Total length 7·6 inches, culmen 0·7, wing 3·8, tail 3·7, tarsus 0·7.

*Immature.* Differs from the last in having no dark collar nor dark moustachial band; the crown and back of the neck are rather distinctly barred with rufous and dark brown; the sides of the head whiter, and the upper half of the throat ashy white with dusky bars. Total length 7·5 inches, culmen 0·7, wing 4, tail 3·5, tarsus 0·7.

*Hab.* The same as that of the genus.

| | | | |
|---|---|---|---|
| *a.* ♀ imm. sk. | Astrolabe Mts., S.E. New Guinea, Dec. 15. | H. O. Forbes, Esq. [C.]. |

## 16. RHAMPHOMANTIS.

Type.

Rhamphomantis, *Salvad. Ann. Mus. Civ. Gen.* xiii. 1879, p. 450 ..... R. megarhynchus.

*Range.* New Guinea and Aru Islands.

### 1. Rhamphomantis megarhynchus.

Cuculus megarhynchus, *G. R. Gray, P. Z. S.* 1858, pp. 184, 195; *id. Cat. B. New Guin.* pp. 44, 60 (1859); *id. P. Z. S.* 1861, p. 437; *Rosenb. J. f. O.* 1864, p. 117; *Gray, Hand-l. B.* ii. p. 217, no. 9025 (1870).

Cacomantis megarhynchus, *Cab. & Heine, Mus. Hein.* iv. p. 23, note (1862); *Finsch, Neu-Guin.* p. 159 (1865).

Rhamphomantis megarhynchus, *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 459 (1878); *id. Orn. Papuasia etc.* i. p. 343 (1880).

*Adult male.* Upper parts brown, with the crown, nape, and sides of the head grey; a bare dusky patch round the eye; underparts rufous, freckled very evenly all over with dusky ash, and obscurely barred with that colour on the under tail-coverts; under wing-coverts and a large basal portion of the inner webs of the quills rufous; end of the quills dark brown; tail brown, with pale buffish-brown ends and a subterminal dark bar visible on most of the feathers, the outer tail-feathers having on their inner webs about six rufous bars alternating with broader black ones, the next feathers similarly but more obscurely marked: "bill black; legs slaty grey" (*Wallace*). Total length 7·5 inches, culmen 0·95, wing 3·9, tail 3, tarsus 0·7.

*Hab.* The same as that of the genus.

| | | | |
|---|---|---|---|
| *a.* ♂ ad. sk. | Aru Islands. | Wallace Coll. | (Type of species.) |

## 17. SCYTHROPS.

Type.

Scythrops, *Lath. Ind. Orn.* i. p. 141 (1790) .... S. novæ-hollandiæ.

*Range.* New Guinea and the adjacent Papuan Islands, to Ceram and the Moluccas, Celebes and Flores.

### 1. Scythrops novæ-hollandiæ.

Psittaceous Hornbill, *Phill. Voy. Botany Bay*, p. 165, pl. (1789).

Anomalous Hornbill, *J. White, Journ. Voy. N. S. Wales*, p. 142, pl. (1790).

Scythrops novæ-hollandiæ, *Lath. Ind. Orn.* i. p. 141 (1790); *Ill. Prodr.* p. 204 (1811); *Vieill. N. Dict.* xxx. p. 456 (1819); *Bonn. & Vieill. Enc. Méth.* p. 1427 (1823); *Temm. Pl. Col.* 290 (1824); *Vieill. & Oud. Gal. Ois.* i. p. 27, pl. 39 (1825); *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 306 (1826); *Less. Man. Orn.* ii. p. 128 (1828); *id. Traité*, p. 128, pl. 23. fig. 1 (1831); *Lafr. Mag. Zool.* 1835, *Ois.* pl. 37; *Küster, Orn. Atlas*, pt. 15, pl. 4 (1838); *Gray, Gen. B.* ii. p. 461 (1845); *Gould, B. Austr.* iv. pl. 90 (1848); *id. Introd. B. Austr.* p. 68 (1844); *Rchb. Vög. Neuholl.* ii. pp. 119, 309 (1849); *Bp. Consp.* i. p. 97 (1850); *id. Consp. Vol. Zygod.* p. 4 (1854); *Wall. Ibis*, 1860, p. 147; *Gray, P. Z. S.* 1860, p. 359; *Cab. & Heine, Mus. Hein.* iv. p. 56 (1862); *Wall. P. Z. S.* 1863, p. 482; *Rosenb. Natuurk. Tijdschr. Nederl. Ind.* xxv. p. 229 (1863); *id. J. f. O.* 1864, p. 117; *Schl. Mus. Pays-Bas*, Cuculi, p. 36 (1864); *Finsch, Neu-Guinea*, p. 159 (1865); *Gould, Handb. B. Austr.* i. p. 628 (1865); *Rosenb. Reis. naar Zuidoostereil.* p. 82 (1867); *Gray, Hand-l. B.* ii. p. 221, no. 9078 (1870); *Wald. Trans. Z. S.* viii. p. 51 (1872); *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875); *Salvad. & d'Alb. Ann. Mus. Civ. Gen.* vii. p. 813 (1875); *Ramsay, Journ. Linn. Soc. N. S. Wales*, i. p. 394 (1876); *Salvad. Ann. Mus. Civ. Gen.* viii. p. 374 (1876); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 492 (1878); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iii. p. 258 (1878); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 462 (1878), xiv. p. 614 (1879); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iv. p. 96 (1879); *Finsch, P. Z. S.* 1879, p. 13; *Sharpe, Journ. Linn. Soc., Zool.* xiv. pp. 628, 686 (1879); *Sclat. P. Z. S.* 1879, p. 447; *Meyer, Ibis*, 1879, p. 67; *Salvad. Orn. Papuasia etc.* i. p. 372 (1880); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Finsch, Vög. Südsee*, p. 16 (1884); *Meyer, Sitzb. nat. Gesellsch. Isis*, 1884, *Suppl.* i. p. 18; *Guillem. P. Z. S.* 1885, p. 549; *Blasius, Zeitschr. ges. Orn.* ii. p. 260 (1885); *Ramsay, Tab. List Austr. B.* p. 15 (1888); *Salvad. Agg. Orn. Papuasia*, p. 52 (1889).

Australian Channel-Bill, *Lath. Syn. Suppl.* ii. p. 96, pl. 124 (1801); *id. Gen. Hist.* ii. p. 300, pl. 32 (1822).

Scythrops australasiæ, *Shaw, Gen. Zool.* viii. p. 378, pl. 50 (1811); *Steph. op. cit.* xiv. p. 95 (1820).

Scythrops goerang, *Vieill. N. Dict.* xxx. p. 456 (1819); *Vieill. Enc. Méth.* p. 1427 (1823).

Scythrops australis, *Swains. Class. B.* ii. p. 299 (1837).

Cuculus præsagus, *Reinw. MS., fide Bp. Consp.* i. p. 97 (1850).

Scythrops novæ-hollandiæ, var. præsagus, *Brügg. Abhandl. nat. Ver. Brem.* v. p. 56 (1876).

*Adult male.* Entire head and neck uniform pearl-grey; remainder of the upper parts darker olive-grey, with broad brownish-black ends to all the feathers of the back and wings, giving a rather irregular mottled appearance to these parts; tail with a broad subterminal brownish-black bar and a white end, very narrow on the two centre feathers and broader on the remainder; body greyish white, slightly paler than the throat and with traces of broad bands on the

sides, always most distinct on the thighs and under tail-coverts; these bars vary in intensity with age, being darkest in the youngest birds and occasionally black on the thighs and under tail-coverts; tail beneath paler than above, and with alternate broad white and black notches on the inner webs of the feathers; under wing-coverts greyish white, sometimes with partial grey bars; under surface of the quills pearl-grey, with broad brownish-black ends to the feathers: "orbits and lores scarlet; bill light yellowish horn-colour; feet olive-brown" (*Gould*). Total length 25 inches, culmen 4, wing 14, tail 11, tarsus 1·7.

*Adult female.* Similar in plumage to the male.

*Hab.* Australia, New Guinea, Duke of York Island and New Britain, Ké Islands, Ceram, Bouru, Obi, Batchian, Ternate, Celebes, and Flores.

| | | |
|---|---|---|
| *a.* Ad. st. | Australia. | A. Cunningham, Esq. [P.]. |
| *b.* Ad. sk. | Australia. | Gould Coll. |
| *c.* Ad. sk. | Australia. | Forbes Coll. |
| *d.* Ad. sk. | Australia. | Tweeddale Coll. |
| *e.* Ad. sk. | Australia. | Hume Coll. |
| *f, g.* Ad. sk. | Queensland. | Tweeddale Coll. |
| *h.* Ad. sk. | Port Denison, Queensland. | Seebohm Coll. |
| *i, k.* Ad. sk. | Cape York (*J. T. Cockerell*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | N.W. Australia. | J. R. Elsey, Esq. [P.]. |
| *m.* Juv. st. | New Britain. | Purchased. |
| *n.* Ad. sk. | Duke of York Island. | Rev. G. Brown [C.]. |
| *o, p.* Ad. sk. | Port Moresby. | Seebohm Coll. |
| *q.* Ad sk. | Ceram (*A. R. Wallace*). | Tweeddale Coll. |
| *r.* Ad sk. | N. Ceram. | Wallace Coll. |
| *s, t.* Ad. sk. | Batchian. | Wallace Coll. |
| *u.* Ad. sk. | Celebes (*Von Rosenberg*). | Salvin-Godman Coll. |
| *v, w.* ♂ ♀ ad. sk. | Menado, N. Celebes. | Tweeddale Coll. |
| *x.* ♀ ad. sk. | Makassar. | Wallace Coll. |
| *y.* ♂ ad. sk. | Makassar (*A. R. Wallace*). | Tweeddale Coll. |

## Subfamily II. CENTROPODINÆ.

### 18. CENTROPUS.

| | Type. |
|---|---|
| Centropus, *Ill. Prodr.* p. 205 (1811) | C. senegalensis. |
| Polophilus, *Leach, Zool. Miscell.* i. p. 115, pls. 46, 51, 52, 56 (1814) | C. phasianus. |
| Corydonyx, *Vieill. Analyse*, p. 28 (1816) | C. toulou. |
| Centrococcyx, *Cab. & Heine, Mus. Hein.* iv. p. 109 (1862) | C. viridis. |
| Pyrrhocentor, *Cab. t. c.* p. 117 | C. celebensis. |
| Nesocentor, *Cab. t. c.* p. 118 | C. milo. |

*Range.* The whole of Tropical Africa, ranging into the Nile Delta; Madagascar; Indian Peninsula and Ceylon, ranging eastwards into China, and south through the entire Malayan archipelago to the Papuan Islands and Australia.

*Key to the Species.*

*a*. Wings not rufous.
  *a'*. Neck white.
    *a''*. Colour more blue; head white, with some black on crown ..... *ateralbus*, p. 334.
    *b''*. Colour more green; head entirely white. *milo*, p. 335.
  *b'*. Neck black like the head and body.
    *c''*. With a white speculum on the wing .... *goliath*, p. 335.
    *d''*. With no white speculum on the wing.
      *a'''*. Bill yellowish.
        *a*⁴. Colour greenish black ..... *menebiki*, p. 336.
        *b*⁴. Colour bluish black, with no shade of green ..... *aruensis*, p. 337.
      *b'''*. Bill black.
        *c*⁴. Plumage violet or blue-black.
          *a*⁵. Larger: wing 9·6 inches; with a more violet gloss ..... *violaceus*, p. 337.
          *b*⁵. Smaller: wing 8·2 inches; with a bluish gloss ..... *chalybeus*, p. 337.
        *d*⁴. Plumage greenish black.
          *c*⁵. Plumage uniform, not marked with brown.
            *a*⁶. Larger: wing 7·5–9 inches .. *bernsteini*, p. 388. / *spilopterus*, p. 338.
            *b*⁶. Smaller: wing 6·2 inches ..... *mindorensis*, p. 388.
          *d*⁵. With some brown on the plumage
            *c*⁶. Size smaller: wing 8 to 9 inches. Wing blacker; under surface very slightly barred... ..... *nigricans*, p. 339.
            *d*⁶. Size larger; wing 10·5 inches. Wings strongly barred with rufous and buff, equally so above and below ..... *phasianus*, p. 340.

*b*. Wings rufous.
  *c'*. Head, neck, and underparts black.
    *e''*. Bill green; head and neck purple ..... *chlororhynchus*, p. 342.
    *f''*. Bill black or nearly so.
      *c'''*. Under wing-coverts black. No seasonal change of plumage.
        *e*⁴. Wings paler: dark parts bluer, partially shaded with blue or violet.
          *e*⁵. Smaller: wing about 6 inches .... *rectunguis*, p. 343.
          *f*⁵. Larger: wing over 7 inches.
            *e*⁶. Wings brighter; dark parts less shaded with violet ..... *sinensis*, p. 343.
            *f*⁶. Wings duller; head, neck, and body entirely glossed with violet ..... *purpureus*, p. 348.
        *f*⁴. Wings darker; dark parts greener, with no shade of blue; wing from 6 to 6·5 inches ..... *viridis*, p. 349.
      *d'''*. Under wing-coverts rufous. Two very distinct seasonal plumages.
        *g*⁴. Wings darker; under wing-coverts occasionally mottled with black .. *toulou*, p. 350.

$h^4$. Wings paler, with no trace of black on the under wing-coverts.
$g^5$. Bill slightly longer, and not quite so black.
$g^6$. Mantle brighter rufous, the blue-black of the hind neck contrasting sharply with it ..... *bengalensis*, p. 352.
$h^6$. Mantle duller, the dull greenish brown of the head and back of neck passing imperceptibly into the colour of the mantle..... *javanicus*, p. 354.
$h^5$. Bill shorter and uniform black .. *nigrorufus*, p. 357.
$d'$. Head, neck, and underparts not entirely black.
$g''$. Tail black.
$e'''$. Abdomen not black.
$i^4$. Throat black.
$i^5$. Abdomen chestnut. Size smaller . *epomidis*, p. 357.
$k^5$. Abdomen whitish. Size larger .. *leucogaster*, p. 358.
$k^4$. Throat pale like the breast.
$l^5$. Underparts isabelline or rufous buff.
$i^6$. Larger: wing about 8 inches .. *anselli*, p. 359.
$k^6$. Smaller: wing about 7 inches.. *fischeri*, p. 359.
$m^5$. Underparts white or nearly so.
$l^6$. Larger: upper half of the head and back of neck blue, bluer than the tail ..... *monachus*, p. 359.
$m^6$. Smaller; upper half of head and back of neck not bluer than the tail.
$a^7$. Lower back, upper tail-coverts, and tail uniform greenish black (in adults); no buff shaft-stripes on the mantle; no white ends to the tail-feathers..... *senegalensis*, p. 360.
$b^7$. Lower back, upper tail-coverts, and basal third of tail narrowly barred with buff; with white shaft-stripes on the mantle, and with white ends to the tail-feathers.
$a^8$. Crown blacker and greener eyebrow, when present, never entire; white shaft-stripes on mantle less numerous and not edged with black; black streaks and bars on the underparts almost absent ..... *natalensis*, p. 362.
$b^8$. Upper half of the head brown, with an entire broad white eyebrow .... *superciliosus*, p. 363.
$f'''$. Abdomen black ..... *melanops*, p. 365.

*h''*. Tail not black.
*g'''*. Head, neck, and breast buff, contrasting with the wings.
*l*. Tail of same shade of chestnut as the wing ..... *celebensis*, p. 365.
*m*. Tail chestnut like the wings ..... *andamanensis*, p. 366.
*h'''*. Entire plumage nearly uniform rufous. *unirufus*, p. 367.

## 1. Centropus ateralbus.

Centropus ateralbus, *Less. Féruss. Bull. Sc. Nat.* vii. p. 113 (1826); *id. Voy. Coq., Zool.* i. pt. 1, p. 348, pt. 2, p. 620, pl. 34 (1828); *id. Man. Orn.* ii. p. 121 (1828); *id. Traité*, i. p. 137 (1831); *id. Hist. Nat. Mamm. et Ois.* p. 251, pl. 18. fig. 1 (1837); *Gray, Gen. B.* ii. p. 455 (1846); *Bp. Consp.* i. p. 108 (1850); *Pucher. Rev. et Mag. Zool.* 1852, p. 475; *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Gray, Cat. B. Trop. Isl.* p. 35 (1859); *Sclat. P. Z. S.* 1869, p. 122; *Gray, Hand-l. B.* ii. p. 214, no. 8981 (1870); *Wald. Tr. Linn. Soc.* viii. p. 56 (1872); *Scl. P. Z. S.* 1877, p. 106, 1878, p. 289; *Finsch, P. Z. S.* 1879, p. 17; *Layard, Ibis*, 1880, p. 300; *Tristr. Ibis*, 1882, p. 143; *Finsch, Vög. der Südsee*, p. 16 (1884); *North, Proc. Linn. Soc. N. S. Wales*, (2) ii. p. 444 (1887).

Nesocentor ateralbus, *Cab. & Heine, Mus. Hein.* iv. p. 119 (1862); *Cab. & Reichen. J. f. O.* 1877, p. 324; *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 462 (1878); *id. Orn. Papuasia*, i. p. 384 (1880), iii. p. 521 (1882); *Salvad. Agg. Orn. Papuasia*, p. 52 (1889).

*Adult*. Head and entire throat white, with the forehead, a band down the centre of the crown, and portion of the eyebrows black (the amount of the black on the head varying greatly); remainder of the plumage black, strongly glossed with violet-blue, with a large white patch on the wing formed by the greater coverts: bill and legs black, irides brown. Total length 21 inches, culmen 1·8, wing 9, tail 11·2, tarsus 2.

*Immature*. Differs from the adult in the whole crown being black with buff shaft-stripes and partial buff shaft-stripes on the hind neck, upper back, and lesser wing-coverts. It has no white on the wing nor breast, which latter is partially mottled with pale brown bars. Total length 19·6 inches, culmen 1·6, wing 8, tail 12, tarsus 2.

The amount of white on the plumage is very variable, being sometimes absent from the wing, and frequently present in patches on the breast, while partial or entire albinism is not uncommon.

*Hab*. New Ireland and New Britain.

| | | |
|---|---|---|
| *a*. Ad. sk. | New Ireland. | Capt. Lambrick [P.]. |
| *b*. Ad. sk. | New Ireland. | Rev. G. Brown [C.]. |
| *c*. Ad. sk. | [New Ireland.] | P. L. Sclater, Esq. [P.] |
| *d*. ♂ var. sk. | Kabau, New Britain. | Rev. G. Brown [C.]. |
| *e, f*. ♂ ♀ ad.; *g*. ♂ juv.; *h*. ♂ var. sk. | New Britain, July (*Kleinschmidt*). | Godeffroy Museum. |
| *i*. Ad. sk. | New Britain. | Tweeddale Coll. |

### 2. Centropus milo.

Centropus milo, *Gould, P. Z. S.* 1856, p. 136; *Gray, Cat. B. Trop. Isl.* p. 34 (1859); *Sel. P. Z. S.* 1869, p. 124; *Gray, Hand-l. B.* ii. p. 214, no. 8974 (1870); *Ramsay, Pr. Linn. Soc. N. S. Wales*, iv. p. 69 (1879); *Tristr. Ibis*, 1882, p. 143; *Ramsay, Proc. Linn. Soc. N. S. Wales.* vii. p. 21 (1882).

Nesocentor milo, *Cab. & Heine, Mus. Hein.* iv. p. 120, note (1862); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 463 (1878); *id. Orn. Papuasia*, i. p. 385 (1880), iii. p. 521 (1882); *Grant, P. Z. S.* 1888, p. 191; *Sharpe, in Gould's B. New Guin.* iv. pl. 44 (1888); *Salvad. Agg. Orn. Papuasia*, 1889, p. 52.

*Adult male.* Head, neck, and chest buffy white; remainder of the plumage black, strongly glossed with greenish blue: "iris red; bill and legs black" (*Woodford*). Total length 28 inches, culmen 2·5, wing 10, tail 13·2, tarsus 2·8.

*Young.* General plumage rufous, broadly barred with black, the black predominating over the rufous on the head and neck. Total length 26 inches, culmen 2·5, wing 9·2, tail 10·3, tarsus 2·8.

*Hab.* Island of Guadalcanar in the Solomon Archipelago.

| | | |
|---|---|---|
| *a.* ♂ imm. sk. | Guadalcanar, Solomon Islands, Dec. 28. | J. McGillivray [C.]. (Type of species.) |
| *b.* ♂ ad.; *c.* ♀ juv. sk. | Guadalcanar. | Reginald Tupper, Esq. [P.]. |
| *d.* ♀ imm. sk. | Guadalcanar, May 6. | C. M. Woodford, Esq. [P.]. |

### 3. Centropus goliath.

Centropus goliath, *Bp. Consp.* i. p. 108 (1850) (*ex Forsten, MSS. in Mus. Lugd.*); *id. Consp. Vol. Zygod.* p. 5 (1854); *Gray, P. Z. S.* 1860, p. 359; *Schl. Mus. Pays-Bas*, Cuculi, p. 61 (1864); *id. Dierent.* p. 102; *Finsch, Neu-Guin.* p. 160 (1865); *Gray, Hand-l. B.* ii. p. 214, no. 8976 (1870).

Nesocentor goliath, *Cab. & Heine, Mus. Hein.* iv. p. 118 (1862); *Salvad. Ann. Mus. Civ. Gen.* vii. p. 763 (1875), xiii. p. 462; *id. Orn. Papuasia*, i. p. 382 (1880); *Guillem. P. Z. S.* 1885, p. 566.

*Adult.* Black, strongly glossed with green and blue, the latter colour more evident on the wings and tail; a large white patch is formed on the wings by the primary-coverts and the greater wing-coverts: bill and legs black, iris red. Total length 26·5 inches, culmen 2, wing 10·5, tail 16, tarsus 2·35.

*Immature.* Differs from the adult in having the head, neck, and underparts brownish black, marked on the head and hind neck with white shaft-stripes or triangular spots, while the underparts are barred.

*Hab.* Islands of Batchian and Halmahéra or Gilolo, in the Moluccas.

| | | |
|---|---|---|
| *a.* Ad. st. | [Batchian.] | Old Coll. |
| *b*, *c.* ♀ ad.; *d.* Juv. sk. | Batchian (*A. R. Wallace*). | Tweeddale Coll. |

| | | |
|---|---|---|
| *e–h.* Ad.; *i, k, l.* Imm. sk. | Batchian (*Meyer*). | Seebohm Coll. |
| *m.* Juv. sk. | Gilolo. | Seebohm Coll. |
| *n, o, p.* Ad. sk. | Gilolo (*A. R. Wallace*). | Tweeddale Coll. |
| *q.* ♀ ad. sk. | Gilolo, Oct. 26 (*Leiden Museum*). | Salvin-Godman Coll. |

### 4. Centropus menebiki.

Centropus menbeki, *Less. & Garn. Voy. Coq., Zool. Atlas*, pl. 33 (1826); *Gray, Hand-l. B.* ii. p. 214, no. 8977 (1870); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 258 (1878), iv. p. 96 (1879).

Centropus menebikii, *Garn. Voy. Coq., Zool.* i. pt. 2, p. 600 (1828); *Less. ibid.* p. 620 (1828).

Centropus menbikii, *Less. Man. Orn.* ii. p. 122 (1828); *id. Compl. de Buff., Ois.* p. 620 (1838); *S. Müll. Verh. Land- en Volkenk.* p. 22 (1839–44).

Centropus menebiki, *Less. Traité*, p. 137 (1831); *Gray, Gen. B.* ii. p. 455 (1846); *Bp. Consp.* i. p. 108 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Gray, P. Z. S.* 1858, p. 195 (pt.); *id. Cat. B. New Guin.* p. 43 (pt., 1859); *id. P. Z. S.* 1859, p. 159, 1861, p. 437; *Rosenb. Nat. Tijdschr. Ned. Ind.* xxv. p. 250 (1863); *id. J. f. O.* 1864, p. 117.

Centropus menebeki, *Sclat. Journ. Pr. Linn. Soc.* ii. p. 166 (1858); *Schleg. Mus. Pays-Bas*, Cuculi, p. 61 (1864); *id. Nederl. Tijdschr. v. Dierk.* iii. p. 339 (pt., 1866), iv. p. 11 (pt., 1871); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 81, 311 (1877), p. 491 (1878).

Nesocentor menbeki, *Cab. & Heine, Mus. Hein.* iv. p. 119 (1862); *Salvad. Ann. Mus. Civ. Gen.* ix. p. 17 (1876).

Nesocentor menebeki, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 783 (1875), x. p. 124 (1877); *d'Alb. & Salvad. op. cit.* xiv. p. 45 (1879); *Guillemard, P. Z. S.* 1885, p. 625.

Nesocentor menebiki, *Meyer, Mitth. Zool. Mus. Dresd.* i. p. 15 (1875); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 462 (1878); *id. Orn. Papuasia*, i. p. 378 (1880); *Guillem. P. Z. S.* 1885, p. 566; *Salvad. Agg. Orn. Papuasia*, 1889, p. 52.

*Adult.* Black, strongly glossed with green; bill yellowish, shading into dark horn-colour towards the base; iris red; legs dusky brown. Total length 24·5 inches, culmen 1·2, wing 8·8, tail 14·7, tarsus 2·3.

*Hab.* New Guinea and the adjacent islands of Salwati, Jobi, Mysol, and Batanta.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Mysol, June 9 (*A. R. W.*). | Seebohm Coll. |
| *c.* ♂ ad.; *d.* Juv. sk. | Dorey. | Wallace Coll. |
| *e–l.* Ad.; *m, n, o.* Imm. sk. | New Guinea. | Wallace Coll. |
| *p.* Ad. sk. | Port Moresby. | Forbes Coll. |

### 5. Centropus aruensis.

Centropus menebiki (*nec Garn.*), *Gray, P. Z. S.* 1858, pp. 184, 195 (pt., Aru); *id. Cat. B. New Guin.* p. 43 (pt., 1859); *id. P. Z. S.* 1861, p. 437, pt.; *Schl. Ned. Tijdschr. Dierk.* iii. p. 339 (pt., 1866), iv. p. 11 (pt., 1871).

Nesocentor aruensis, *Salvad. Ann. Mus. Civ. Gen.* xii. p. 317 (1878), xiii. p. 462 (1878); *id. Orn. Papuasia*, i. p. 380 (1880).

*Adult.* Similar in plumage to *C. menebiki*, but differs in having a strong bluish-violet gloss on the upper half of the head, back of the neck, wings and tail. Total length 25 inches, culmen 2, wing 8·9, tail 14·5, tarsus 2·2.

*Hab.* Aru Islands.

| | | |
|---|---|---|
| *a*. Juv. sk. | Batchian. | Wallace Coll. |
| *b*. Ad. sk. | Aru Islands. | Wallace Coll. (Type of the species.) |
| *c*. ♂ imm. sk. | Aru Islands. | Wallace Coll. |
| *d*. Ad. sk. | Aru Islands (*A. R. Wallace*). | Tweeddale Coll. |
| *e*, *f*. Ad.; *g*, *h*, *i*. Imm. sk. | Aru Islands (*J. T. Cockerell*). | Salvin-Godman Coll. |

### 6. Centropus violaceus.

Centropus sp., *Less. Traité*, p. 138, note (1831).

Coucal violet, *Quoy & Gaim. Voy. Astrol., Zool., Atlas*, pl. 19 (1833).

Centropus violaceus, *Quoy & Gaim., Voy. Astrol., Zool.* i. p. 299 (1830); *Less. Compl. Buff., Ois.* ix. p. 251, pl. 18. fig. 2 (1838); *Gray, Gen. B.* ii. p. 455 (1846); *Bp. Consp.* i. p. 108 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Gray, Cat. B. Trop. Isl.* p. 35 (1859); *Rosenb. Nat. Tijdschr. Ned. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 117; *Finsch, Neu-Guin.* p. 160 (1865); *Gray, Hand-l. B.* ii. p. 214, no. 8975 (1870); *Scl. P. Z. S.* 1877, p. 106; *Layard, Ibis*, 1880, p. 300.

Nesocentor violaceus, *Cab. & Heine, Mus. Hein.* iv. p. 120 (1862); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 462 (1878); *id. Orn. Papuasia*, p. 381 (1880).

*Adult.* Black, strongly glossed all over with violet. Bill black; bare skin round the eyes red; legs brownish yellow. Total length 24·5 inches, culmen 2·5, wing 9·6, tail 15, tarsus 2·5.

*Hab.* New Ireland and New Britain.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | New Britain, Feb. 1876 (*G. Brown*). | Tweeddale Coll. |
| *b*. ♀ ad. sk. | Blanche Bay, New Britain (*G. E. Richards*). | Seebohm Coll. |

### 7. Centropus chalybeus.

Centropus violaceus (*nec Quoy & Gaim.*), *Schl. Ned. Tijdschr. v. Dierk.* iv. p. 12 (1871); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 81 (1876).

Nesocentor violaceus, *Meyer, Mitth. Zool. Mus. Dresd.* i. p. 16 (1875).

Centropus sp., *Beccari, Ann. Mus. Civ. Gen.* vii. p. 715, (1875); *id. Ibis*, 1876, p. 253.

Nesocentor chalybeus, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 915 (1875); *Scl. P. Z. S.* 1877, p. 106; *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 81 (1877); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 462 (1878); *id. Orn. Papuasia*, i. p. 382 (1880).

*Adult male.* General plumage violet-shaded blue-black, duller and less violet on the lower back and upper tail-coverts and abdomen; iris red; bare skin round the eye, bill, and legs black. Total length 22 inches, culmen 1·95, wing 10, tail 11·25, tarsus 2·1.

*Hab.* Island of Misori, in the Bay of Geelvink.

### 8. Centropus bernsteini *.

Centropus bernsteini, *Schl. Ned. Tijdschr. v. Dierk.* iii. p. 251 (1866), iv. p. 11 (1871); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 81 (1876).

Nesocentor bernsteini, *Meyer, Mitth. Zool. Mus. Dresd.* i. p. 17, note (1875).

Centropus spilopterus, pt., *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 81 (1876).

Polophilus bernsteini, *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 463 (1878); *d'Alb. & Salvad. op. cit.* xiv. p. 46 (1879); *Salvad. Orn. Papuasia*, i. p. 388 (1880).

*Adult.* Entirely black, with a strong greenish gloss, and glossy black shafts to the feathers of the top of the head, neck, mantle, and chest. Bill and legs black; iris dirty whitish. Total length 18·5 inches, culmen 1·45, wing 7·5, tail 10·7, tarsus 1·75.

*Hab.* New Guinea.

*a*. Ad.; *b*. Imm. sk. New Guinea. Wallace Coll.

### 9. Centropus spilopterus.

Centropus spilopterus, *Gray, P. Z. S.* 1858, p. 184; *id. Cat. B. New Guin.* p. 43 (1859); *id. P. Z. S.* 1861, p. 437; *Schl. Ned. Tijdschr. v. Dierk.* iii. p. 338 (1866); *Rosenb. Reis. naar Zuidoostereil.* p. 82 (1867); *Gray, Hand-l. B.* ii. p. 214, no. 8978 (1870); *Schl. Ned. Tijdschr. v. Dierk.* iv. p. 11 (1871); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 81 (1878, pt.); *Rosenb. Malay. Archip.* p. 371 (1878); *Salvad. Ann. Mus. Civ. Gen.* xiii. p. 463 (1878), xiv. p. 645 (1879).

Nesocentor spilopterus, *Cab. & Heine, Mus. Hein.* iv. p. 120, note (1862).

Polophilus spilopterus, *Salvad. Orn. Papuasia*, i. p. 386 (1880).

*Immature male* (*Ké Island*). Brownish black, with broad glossy black shafts to the feathers of the head, neck, and chest; on the wings some of the feathers irregularly mottled with buff, indicating

* Le Coucal negre, *Levaill. Ois. Afr.* v. p. 84, pl. 322 (1806).
Polophilus maurus, *Steph. Gen. Zool.* ix. p. 57 (1815).
Centropus æthiops, *Cuv. Règne An.* i. p. 426 (1817).
Corydonix nigerrimus, *Vieill. Nouv. Dict.* xxxiv. p. 297 (1819).
The figure of Levaillant's "Coucal negre" somewhat resembles *Centropus bernsteini*, but the account of its habits is fabulous.

bars : bill and legs blackish brown. Total length 21 inches, culmen 1·65, wing 9·1, tail 12·4, tarsus 2·1.

*Hab.* Ké Islands.

| | | | |
|---|---|---|---|
| *a.* ♂ vix ad. sk. | Ké Islands. | Wallace Coll. (Type of species.) |

### 10. Centropus mindorensis.

Centrococcyx mindorensis, *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 12 (1890).

Centropus mindorensis, *Hartert, Kat. Vög. Mus. Senckenb.*, App. p. 253 (1891).

*Adult male.* Similar in plumage to *Centropus bernsteini*, but differs in having the bill scarcely more than half the size, the culmen more curved, with a groove following the line of the culmen in front of the nostril : "bill black, paler towards the tip ; legs black ; iris bright dark red" (*J. B. Steere*). Total length 17 inches, culmen 1·15, wing 6·2, tail 9·7, tarsus 1·5.

The specimen has a few white feathers on the front of the chest, probably due to albinism.

*Hab.* Island of Mindoro, Philippines.

| | | |
|---|---|---|
| *a.* ♂ ad. sk. | Calapan, Mindoro, May 28. | E. L. Moseley, Esq. [C.] |

### 11. Centropus nigricans.

Polophilus sp., *Salvad. Ann. Mus. Civ. Gen.* vii. p. 813 (1875).

Polophilus nigricans, *Salvad. Ann. Mus. Civ. Gen.* ix. p. 17 (1876), xiii. p. 463 (1878) ; *id. Orn. Papuasia*, i, p. 390 (1880).

Centropus melanurus (*nec Gould*), *Ramsay, Pr. Linn. Soc. N. S. Wales*, i, p. 394 (1876).

Centropus nigricans, *Sharpe, Journ. Linn. Soc., Zool.* xiv. p. 629 (1879).

Centropus spilopterus (*nec Gray*), *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 81, 310 (1877), 491 (1878) ; *Ramsay, Pr. Linn. Soc. N. S. W.* iii. p. 258 (1878), iv. p. 96 (1879) ; *Salvad. Ibis*, 1879, p. 321.

*Adult male* (*Yule Island*). Differs from *C. spilopterus* in having the mottling on the wing slightly more pronounced and browner, and the upper tail-coverts and two centre tail-feathers marked with irregular brownish-buff bars. Total length 23·2 inches, culmen 1·45, wing 9, tail 13·3, tarsus 2. Another, from *Port Moresby*, differs in having every feather of the wing marked with distinct wavy pale bars, mostly buff on the coverts and outer webs of the quills, and bright chestnut on the inner webs of the latter ; most of the glossy shafts of the feathers of the mantle are buff, and the upper tail-coverts and most of the tail-feathers are irregularly barred, the latter having narrow white ends. Total length 20·5 inches, culmen 1·45, wing 8·2, tail 12·6, tarsus 1·9. A specimen from *S.E. New Guinea* has the upper part of the head, back of the neck, and scapulars rufous-brown partially mottled with black concentric bars, all these feathers as well as those of the mantle, throat, and chest have glossy buff shaft-stripes ; the wings and tail are very similar to

those of the last specimen, but the pale markings are rather stronger and more marked on the ends of the quills and outer tail-feathers; the eyebrows and the underparts are buff, the latter rather irregularly mottled and barred with black, especially on the tail-coverts; under surface of the wing black, with a few partial narrow bars showing through. Total length 23·6 inches, culmen 1·55, wing 9·4, tail 14·2, tarsus 2·1.

*Hab.* South-eastern New Guinea.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | East Cape, New Guinea. | C. Hunstein [C.]. |
| *b*. Ad.; *c*. Imm. sk. | S.E. New Guinea. | Seebohm Coll. |
| *d*. ♂ ad. sk. | Yule Island, S.E. New Guinea, Nov. (*Dr. James*). | Seebohm Coll. |
| *e*, *f*. ♂ ♀ ad. sk. | Sogere district, Astrolabe range, Sept. | H. O. Forbes, Esq. [C.]. |
| *g*, *h*. Ad. sk. | Port Moresby. | Seebohm Coll. |
| *i*, *k*. Ad.; *l*. Imm. sk. | Port Moresby. | Forbes Coll. |
| *m*. ♂ ad. sk. | Port Moresby, Dec. (*Dr. O. Finsch*). | Tweeddale Coll. |

### 11. Centropus phasianus.

Cuculus phasianus, *Lath. Ind. Orn.* ii. *Suppl.* p. 30 (1801).

Coucal géant, *Levaill. Ois. Afr.* v. p. 64, pl. 223 (1806); *Sunder. Krit. Framst. om Levaill.* p. 49.

Polophilus phasianus, *Leach, Zool. Misc.* i. p. 116, pl. 46 (1814); *Steph. Gen. Zool.* ix. p. 48, pl. 11 (1815); *Cab. & Heine, Mus. Hein.* iv. p. 121 (1862).

Polophilus variegatus, *Leach, Zool. Misc.* i. p. 116, pl. 51 (1814); *Steph. Gen. Zool.* ix. p. 47, pl. 10 (1815).

Polophilus leucogaster, *Leach, Zool. Misc.* i. p. 117, pl. 52 (1814); *Steph. Gen. Zool.* ix. p. 49, pl. 12 (1815).

Polophilus gigas, *Steph. Gen. Zool.* ix. p. 45 (1815).

Centropus phasianus, *Temm. Man. Orn.* i. p. lxxiv (1815); *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 306 (1824); *Steph. Gen. Zool.* xiv. p. 214 (1826); *Gould, Intr. B. Austr.* p. 68 (1848); *id. B. Austr.* iv. pl. 92 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 78 (1849); *Bp. Consp.* i. p. 108 (1850); *Reichb. Vög. Neuholl.* ii. pp. 118, 310 (1850); *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Schl. Mus. Pays-Bas*, Cuculi, p. 63 (1864); *Gould, Handb. B. Austr.* i. p. 634 (1865); *Gray, Hand-l. B.* ii. p. 214, no. 8982 (1870); *Ramsay, P. Z. S.* 1875, p. 601; *Forbes, P. Z. S.* 1878, p. 125; *id. Rep. Voy. 'Challenger,'* ii. p. 90 (1880); *Sharpe, Voy. 'Alert,'* p. 25 (1884); *Ramsay, Tab. List Austr. B.* p. 15.

Corydonix phasianus, *Vieill. N. Dict.* xxxiv. p. 295 (1819).

Corydonix giganteus, *Vieill. t. c.* p. 295.

Corydonix variegatus, *Vieill. t. c.* p. 298.

Centropus variegatus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 214 (1824); *Steph. Gen. Zool.* xiv. p. 214 (1826); *Gray, Gen. B.* ii. p. 455 (1846).

Centropus gigas, *Steph. Gen. Zool.* xiv. p. 214 (1826).

Centropus macrourus, *Gould, Introd. B. Austr.* p. 68 (1848); *id. B. Austr.* iv. text to pl. 92 (1848); *Reichb. Vög. Neuholl.* ii. pp. 119,

310 (1850); *Bp. Consp.* i. p. 108 (1850); *Gould, Handb. B. Austr.* i. p. 636 (1865); *Gray, Hand-l. B.* ii. p. 214, no. 8983 (1870).

Centropus melanurus, *Gould, Intr. B. Austr.* p. 68 (1848); *id. B. Austr.* iv. text to pl. 92 (1848); *Reichb. Vög. Neuholl.* ii. pp. 119, 310 (1850); *Bp. Consp.* i. p. 108 (1850); *Gray, Hand-l. B.* ii. p. 214, no. 8984 (1870); *Ramsay, Proc. Linn. Soc. N. S. Wales*, (2) ii. p. 170 (1887).

Polophilus melanurus, *Cab. & Heine, Mus. Hein.* iv. p. 121 (1862).

*Adult male in breeding-plumage.* Head, neck, and entire underparts black glossed with green and with glossy shaft-stripes to the feathers: wings chestnut, barred with black and buff; the wing-coverts and innermost secondaries with distinct white shafts; back brownish black glossed with green; rump, upper tail-coverts, and tail glossy greenish black, with numerous irregular bars of rufous, buff, or white; under surface of the quills chestnut with partial black bars, broadest at their ends; under wing-coverts very similar but more buff: "bill horny black, iris rich golden yellow; legs slate-colour" (*F. T. Gregory*). Total length 23·3 inches, culmen 1·6, wing 10·4, tail 14·5, tarsus 2.

*Adult male in non-breeding plumage.* Upper half of the head and back of the neck chestnut, with buff shaft-stripes to each feather, mottled towards the mantle with some narrow wavy black bars: wings, when closed, buff crossed by irregular bars of rufous, each of which is encircled by a broad black margin; the inner webs of the quills and their shafts mostly rich chestnut; back dusky brown; rump, upper tail-coverts, and tail similar in all plumages, glossy greenish black with numerous irregular fulvous bars; underparts buff with stiff glossy fulvous shafts to the feathers of the throat and chest; sides of the body and the thighs narrowly barred with black, and the under tail-coverts black, narrowly barred with buff: bill ashy brown, passing into yellow beneath; iris orange; legs slate-colour. Total length 22·5 inches, culmen 1·6, wing 9·5, tail 12·7, tarsus 2.

*Hab.* Australia.

| | | |
|---|---|---|
| *a*, *b*. Ad.; *c*, *d*. Imm. sk. | Australia. | Tweeddale Coll. |
| *e*, *f*, *g*. Ad.; *h*. Imm. sk. | Australia. | Seebohm Coll. |
| *i*, *k*. Ad. sk. | Australia, April 23 (*F. T. Gregory*). | Gould Coll. |
| *l*. Ad. sk. | New South Wales. | Gould Coll. |
| *m*, *n*. Ad. sk. | Richmond River, New South Wales. | Seebohm Coll. |
| *o*. Imm. sk. | Queensland. | Tweeddale Coll. |
| *p*. Imm. sk. | Port Molle, Queensland (*Dr. Coppinger*). | Voy. of H.M.S. 'Alert.' |
| *q*. Imm. sk. | Moreton Bay, Aug. | J. R. Elsey, Esq.[P.]. |
| *r*, *s*. Imm. sk. | Percy Islands, July (*F. M. Rayner*). | Voy. of H.M.S. 'Herald.' |
| *t*, *u*. Ad.; *v*, *w*. Imm. sk. | Somerset, Cape York (*Cockerell & Thorpe*). | Tweeddale Coll. |
| *x*. Ad. sk. | Cape York. | Gould Coll. |
| *y*. ♀ imm. sk. | Cape York. | Voy. of H.M.S. 'Challenger.' |

| | | |
|---|---|---|
| *z*, *a'*, *b'*. Imm.; *c'*, *d'*. Ad. sk. | Cape York (*J. T. Cockerell*). | Salvin-Godman Coll. |
| *e'*. ♀ imm. sk. | Possession Island, Endeavour Strait (*Dr. Coppinger*). | Voy. of H.M.S. 'Alert.' |
| *f'*. ♂ ad.; *g'*, *h'*, *i'*. ♂ ♀ imm. sk. | Northern Australia. | Tweeddale Coll. |
| *k'*. ♀ ad.; *l'*. Imm. sk. | Port Essington (*J. B. Jukes*). | Voy. of H.M.S. 'Fly.' |
| *m'*. Ad.; *n'*, *o'*. Imm. sk. | Port Essington. | Capt. Chambers [P.]. |
| *p'*. Imm. st. | N.W. Australia. | Sir G. Grey [P.]. |
| *q'*. Ad.; *r'*, *s'*, *t'*. Imm. sk. | N.W. Australia. | J. R. Elsey, Esq. [P.]. |
| *u'*, *v'*. ♀ imm. sk. | N.W. Australia (*T. H. Bowyer Bower*). | Capt. Bowyer Bower [P.] |
| *w'*. Skeleton. | Port Essington. | Purchased. |
| *x'*. Skeleton. | Port Essington. | Eyton Coll. |

### 12. Centropus chlororhynchus.

Centropus chlororhynchus, *Blyth, J. A. S. Beng.* xviii. p. 805 (1849); *id. Cat. B. Mus. As. Soc.* p. 78 (1849); *Gray, Gen. B.* iii. App. p. 22 (1849); *Kelaart, Prodr. Cat.* p. 128 (1852); *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Layard, Ann. & Mag N. H.* xiii. p. 450 (1854); *Schl. Mus. Pays-Bas*, Cuculi, p. 64 (1864); *Blyth, Ibis*, 1867, p. 298; *Gray, Hand-l. B.* ii. p. 214, no. 8968 (1879); *Holdsworth, P. Z. S.* 1872, p. 433; *Legge, B. Ceylon*, i. p. 263, pl. 13 (1879).

Centrococcyx chlororhynchus, *Cab. & Heine, Mus. Hein.* iv. p. 116. note (1862); *Hume, Str. F.* viii. p. 82 (1879).

*Adult male.* Wings deep chocolate, shaded with chestnut, slightly darker on the innermost feathers and with the ends of the quills dark brown; under wing-coverts black; remainder of the plumage black, glossed on the back of the head and the whole of the neck with lilac-purple; back almost without gloss; tail glossed with greenish blue: "bill pea-green, blackish round the nostrils and base of lower mandible; iris dark crimson; legs black" (*Legge*). Total length 17 inches, culmen 1·8, wing 6·3, tail 9·3, tarsus 1·7.

*Adult female.* Similar in plumage to the male. Total length 17 inches, culmen 1·8, wing 6·8, tail 9·4, tarsus 1·8.

*Hab.* Ceylon.

| | | |
|---|---|---|
| *a–r*. ♂ ♀ ad.; *s*. Juv. sk. | Ceylon, March, April (*H. Nevill*). | Tweeddale Coll. |
| *t*. Ad. sk. | Ceylon. | Hume Coll. |
| *u*. ♂ ad. sk. | Ratnapura, Aug. 11. | Colonel Legge [P.]. |
| *v*. ♂ ad. sk. | Kandy, June. | Seebohm Coll. |
| *w*. ♀ ad. sk. | Pusewella, Dec. 18 (*S. Chapman*). | Tweeddale Coll. |
| *x*. ♂ ad. sk. | Avisawella, July 8 (*W. V. Legge*). | Hume Coll. |
| *y*, *z*. ♂ ad. sk. | Avisawella, July (*W. V. Legge*). | Seebohm Coll. |
| *a'*. ♂ ad. sk. | Hanwella, March (*W. V. Legge*). | Seebohm Coll. |

### 13. Centropus rectunguis.

Centropus rectunguis, *Strickl. P. Z. S.* 1846, p. 104; *Blyth, Cat. B Mus. As. Soc.* p. 321 (1849); *Strickl. Ann. & Mag. N. H.* xix. p. 134 (1859); *Schl. Mus. Pays-Bas*, Cuculi, p. 67 (pt., 1864); *Gray, Hand-l. B.* ii. p. 213, no. 8958 (1870); *Snelleman, in Veth's Midden Sumatra, Vog.* p. 34 (1884).

Centrococcyx rectunguis, *Cab. & Heine, Mus. Hein.* iv. p. 114 (1862); *Hume, Str. F.* xiii. p. 55 (1879); *Büttikofer, Notes Leyden Mus.* 1886, p. 32.

*Adult.* Upper back and wings chestnut, with the under wing-coverts black; remainder of the plumage black, brightly glossed with green on the head, back, and lower breast and with blue on the neck, chest, and tail: "bill and legs black; iris red" (*Davison*). Total length 14·6 inches, culmen 1·65, wing 6, tail 7·5, tarsus 1·7.

*Immature.* Differs from the adult in having the head and neck brown; the upper surface darker, consisting of rufous-brown and black bars, and the under surface paler, being much barred with buff and having stiff fulvous shaft-stripes; a few narrow black bars crossing some of the wing-feathers; lower chest and abdomen greenish black, mottled with narrow black bars; upper mandible dark horn-colour, passing into yellowish buff on the lower mandible. Total length 4·2 inches, culmen 1·4, wing 6, tail 8·5, tarsus 1·9.

*Hab.* The Malayan Peninsula, Sumatra, and Borneo.

| | | |
|---|---|---|
| *a*. Ad. sk. | Penang (*R. Swinhoe*). | Seebohm Coll. |
| *b*, *c*. Ad.; *d*. Juv. sk. | Malacca. | Seebohm Coll. |
| *e*, *f*. Ad.; *g*, *h*. Juv. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *i*, *k*. Ad.; *l*. Imm. sk. | Malacca, July (*W. Davison*). | Hume Coll. |
| *m*. Ad. sk. | Sarawak (*H. Everett*). | Tweeddale Coll. |

### 14. Centropus sinensis.

Polophilus sinensis, *Steph. Gen. Zool.* ix. p. 51 (1815).

Centropus bubutus, *Horsf. Trans. Linn. Soc.* xiii. p. 189 (1821); *id. Zool. Research. Java*, pl. 60 (1824); *Bp. Consp. Vol. Zygod.* p. 5 (1854).

Chestnut Coucal, *Lath. Gen. Hist. B.* iii. p. 243, pl. 54 (1822).

Centropus philippensis, var. javanica, *Horsf. Zool. Research. Java*, text to pl. 60 (1824).

Centropus castanopterus, *Steph. Gen. Zool.* xiv. p. 215 (1826); *Helfer, J. A. S. Beng.* 1838, p. 862; *Smith, op. cit.* 1841, p. 658.

Centropus philippensis (*nec Cuv.*), *Sykes, P. Z. S.* 1832, p. 98; *McClelland, P. Z. S.* 1839, p. 166; *Blyth, J. A. S. Beng.* 1842, p. 1099, 1843, p. 246, 1844, p. 945, 1845, p. 202; *S. Müll. Verh. Land- en Volk.* p. 405 (1839–44); *Blyth, Ann. & Mag. Nat. Hist.* 1847, p. 385; *id. Cat. B. Mus. As. Soc.* p. 78 (1849); *Layard, Ann. & Mag. Nat. Hist.* 1854, xiii. p. 450; *Motley & Dillwyn, Contr. Nat. Hist. Labuan*, p. 54 (1855); *Irby, Ibis*, 1861, p. 230; *Scl. P. Z. S.* 1863, p. 209.

Cuculus philippensis, *Sundev. Physiogr. Sällsk. Tijdskr.* 1837, p. 167; *Strickl. Ann. & Mag. Nat. Hist.* 1846, p. 401.

Centropus pyrrhopterus, *Jerd. Madras Journ.* xi. p. 224 (1840).

Cuculus fasciatus, *Smith, J. A. S. Beng.* 1841, p. 659.

Centropus sinensis, *Blyth, J. A. S. Beng.* xii. p. 247 (1843), xiv. p. 202 (1845); *id. App. Cat. B. Mus. As. Soc.* p. xix (1852); *Swinh. Ibis*, 1861, p. 49; *Gray, Hand-l. B.* ii. p. 214, no. 8965(1870); *Swinh. P. Z. S.* 1871, p. 393; *David & Oust. Ois. Chine*, p. 58 (1877); *Styan, Ibis*, 1887, p. 230.

Centropus eurycercus, *Hay, J. A. S. Beng.* xiv. p. 551 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 78 (1849); *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 685 (1856–58); *Schl. Mus. Pays-Bas*, Cuculi, p. 66 (1864); *Gray, Hand-l. B.* ii. p. 212, no. 8963 (1870); *Blyth & Walden, Cat. Mamm. & B. Burma*, p. 82 (1875); *Tweedd. Ibis*, 1877, p. 288; *Hume, Str. F.* v. p. 27 (1877); *Nicholson, Ibis*, 1882, p. 54; *Snelleman, in Veth's Midden Sumatra, Vog.* p. 34 (1884); *Büttik. Notes Leyden Mus.* 1886, p. 32.

Centropus rufipennis (*nec Ill.*), *Blyth, Ann. & Mag. Nat. Hist.* 1843, p. 95; *id. Cat. B. Mus. As. Soc.* pp. 321, xix (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 681 (1856–58); *Jerd. B. Ind.* i. p. 348 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 68 (1864); *Gray, Hand-l. B.* ii. p. 213, no. 8961 (1870); *Jerd. Ibis*, 1872, p. 15; *Hume, Nests & Eggs Ind. B.* p. 142 (1873); *id. Str. F.* i. p. 173 (1873), *Adams, t. c.* p. 374; *Morgan, Ibis*, 1875, p. 315; *Blyth & Walden, B. Burma*, p. 81 (1875); *Fairbank, Str. F.* vi. p. 255 (1876); *Legge, B. Ceylon*, p. 260 (1880); *Marshall, Ibis*, 1884, p. 411.

Centropus viridis (*nec Scop.*), *Swinh. P. Z. S.* 1863, p. 266; *id. Ibis*, 1870, p. 235.

Centropus borneensis, *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Gray Hand-l. B.* ii. p. 213, no. 8962 (1870).

Centrococcyx rufipennis, *Cab. & Heine, Mus. Hein.* iv. p. 115 (1862); *Ball, Str. F.* iii. p. 394 (1874); *Fairbank, op. cit.* vi. p. 297 (1877); (1877); *Davidson & Wenden, op. cit.* vii. p. 79 (1878); *Ball, t. c.* p. 207; *Hume, op. cit.* viii. p. 89 (1879); *Vidal, op. cit.* ix. p. 56 (1880); *Butler, t. c.* p. 389; *Davison, op. cit.* x. pp. 299, 361 (1881); *A. Müll. J. f. O.* 1882, p. 411; *Swinh. & Barnes, Ibis*, 1885, p. 64; *A. Müll. J. f. O.* 1885, p. 157.

Centrococcyx sinensis, *Cab. & Heine, Mus. Hein.* iv. p. 116 (1862).

Centrococcyx eurycercus, *Cab. & Heine, Mus. Hein.* iv. p. 116, note (1862); *Wald. Ibis*, 1872, p. 366; *Hume, Str. F.* i. p. 453 (1873); *Salvad. Ucc. Borneo*, p. 78 (1874); *Hume, Str. F.* ii. pp. 193, 473 (1874), iii. p. 83 (1875); *Armstrong, op. cit.* iv. p. 312 (1876); *Sharpe, Ibis*, 1877, p. 8; *Tweedd. P. Z. S.* 1878, p. 614; *Sharpe, P. Z. S.* 1879, p. 328; *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 188 (1879); *Hume, Str. F.* viii. p. 55 (1879); *Kelham, Ibis*, 1881, p. 394; *Sharpe, P. Z. S.* 1881, p. 793; *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 656 (1881); *Blasius, J. f. O.* 1882, p. 247; *A. Müll. Orn. Ins. Salanga*, p. 60 (1882); *Nicholson, Ibis*, 1883, p. 241; *Blasius, Verh. zool.-bot. Ges. Wien*, xxxiii. p. 39 (1883); *Guillemard, P. Z. S.* 1885, p. 406; *Salvad. Ann. Mus. Civ. Gen.* iv. p. 533 (1887); *Sharpe, Ibis*, 1888, p. 198; *Everett, P. Z. S.* 1889, p. 226; *Hartert, J. f. O.* 1889, p. 372; *Sharpe, Ibis*, 1890, p. 13; *Whitehead, t. c.* p. 46; *Everett, Journ. Straits Branch As. Soc.* 1889, p. 175.

Centrococcyx validus, *Heine, J. f. O.* 1863, p. 357.

Centrococcyx intermedius, *Hume, Str. F.* i. p. 454 (1873); *id. & Davison, op. cit.* vi. p. 168 (1878); *Cripps, op. cit.* vii. p. 266 (1878); *Hume, op. cit.* viii. pp. 89, 155 (1879); *Bingham, op. cit.* ix. p. 169 (1880); *Reid, op. cit.* x. p. 28 (1881); *Oates, t. c.* p. 196; *id. Handb. B. Brit. Burmah*, ii. p. 126 (1883); *Salvad. Ann. Mus. Civ. Gen.* (2) iv. p. 583 (1887); *id. op. cit.* v. p. 569 (1888).
Centrococcyx maximus, *Hume, Str. F.* i. p. 454 (1873).
Centropus intermedius, *Oates, Str. F.* v. p. 145 (1877).
Centrococcyx acheenensis, *Hume, Str. F.* vi. p. 171 (1878).

*Adult male.* General plumage black, with the wings and upper back chestnut; head, neck, and chest glossed with purplish blue; remainder of the body, lower back, upper tail-coverts, and tail glossed with purplish green; primaries with brown ends; inner secondaries slightly tinted with brown: under wing-coverts glossy black: "bill and legs black; iris crimson" (*Davison*). Total length 22 inches, culmen 1·65, wing 8·8, tail 12·3, tarsus 2·3.

*Adult female.* Similar in plumage to the male. Total length 20·5 inches, culmen 1·8, wing 8·3, tail 11·2, tarsus 2·2.

*Immature.* Plumage duller than in the adult and generally of a greener shade; sides of head and front of neck with buffy white spots, increasing into bars on the body; mantle, some of the wing-coverts, and the innermost secondaries barred with black; upper tail-coverts narrowly barred with buff; tail glossy greenish black, with no blue shade.

It will be seen from the above synonymy that I have been unable to satisfy myself respecting the alleged distinctions which have induced ornithologists to recognize such a number of different forms of this Lark-heeled Cuckoo. My experience of the large series which is now in the possession of the British Museum induces me to believe that there is no constant character, either in plumage or in dimensions, which can be found available for the separation of any of the alleged species; on the contrary, a perfect gradation both in size and coloration unites every so-called race.

*Hab.* Indian Peninsula and Ceylon; Burmese Countries to China; Malayan Peninsula and Indo-Malayan Islands.

| | | |
|---|---|---|
| *a–e.* Ad. sk. | Ceylon. | Seebohm Coll. |
| *f–n.* Ad. sk. | Ceylon, Dec., March, April (*S. Chapman & H. Nevill*). | Tweeddale Coll. |
| *o, p.* ♂ ad. sk. | Ragam Corale, Ceylon, July (*Hart*). | Hume Coll. |
| *q.* Ad. st. | India. | General Hardwicke [P.]. |
| *r.* ♀ ad. sk. | Colachul, Feb. | Hume Coll. |
| *s, t.* Ad. sk. | Anjango, Travancore, Dec. (*F. Bourdillon*). | Hume Coll. |
| *u.* Ad. sk. | Travancore. | Eyton Coll. |
| *v–a′.* Ad. et imm. sk. | Malabar. | Seebohm Coll. |
| *b′.* ♀ ad. sk. | Coonoor Ghat, April (*R. G. W. R.*). | Tweeddale Coll. |

| | | |
|---|---|---|
| *c'*–*k'*. ♂ ♀ ad. sk. | Nilghiris, Dec., March, April (*W. Davison*). | Hume Coll. |
| *l'*, *m'*, *n'*. ♂ ad.; *o'*, *p'*. ♀ ad. sk. | Wynaad, March, April, May (*W. Davison*). | Hume Coll. |
| *q'*, *r'*. ♂ ♀ ad. sk. | Mysore, May, Aug. (*W. D.*). | Hume Coll. |
| *s'*. ♀ ad. sk. | Bangalore, April (*R. G. W. R.*). | Tweeddale Coll. |
| *t'*, *u'*, *v'*. ♂ ad. sk. | Belgaum, March, June, July (*E. A. Butler*). | Hume Coll. |
| *w'*. ♂ ad. sk. | South of Godavery river, March (*W. T. Blanford*). | Hume Coll. |
| *x'*, *y'*, *z'*. Ad. sk. | South Konkan, March, April (*G. Vidal*). | Hume Coll. |
| *a''*, *b''*. Ad. sk. | Deccan (*Sykes*). | India Museum. |
| *c''*, *d''*. ♂ ad.; *e''*. ♀ ad. sk. | Khandala, April (*S. B. Fairbank*). | Tweeddale Coll. |
| *f''*. ♂ ad.; *g''*, *h''*, *i''*. ♀ ad. sk. | Ahmednuggur, Nov., Dec., Jan., March (*S. B. Fairbank*). | Tweeddale Coll. |
| *k''*, *l''*, *m''*. Ad. sk. | Khandeish. | Tweeddale Coll. |
| *n''*. Ad. sk. | Satpura Hills, Feb. | Hume Coll. |
| *o''*, *p''*. ♂ ♀ ad. sk. | Sumbalpur, Dec. | Hume Coll. |
| *q''*, *r''*. ♂ ♀ ad. sk. | Mhow, Nov., Dec. | Colonel Swinhoe [P.]. |
| *s''*. ♂ ad. sk. | Manpur, May. | Colonel Swinhoe [P.]. |
| *t''*. Ad. sk. | Kamptee. | Dr. B. Hinde [P.]. |
| *u''*, *v''*. Ad. sk. | Saugor (*W. T. Hooper*). | India Museum. |
| *w''*. Ad. sk. | Sindh (*Dr. H. Gould*). | India Museum. |
| *x''*. Ad. sk. | Sindh. | Hume Coll. |
| *y''*, *z''*. Ad. sk. | Sukkur, Sindh, Nov., Dec. (*A. O. H.*). | Hume Coll. |
| *a*$^3$. ♀ ad.; *b*$^3$. Juv. sk. | Eastern Narra, Sindh, Oct., Nov. (*Scrope Doig*). | Hume Coll. |
| *c*$^3$–*l*$^3$. ♂ ad. et imm; *m*$^3$, *n*$^3$, *o*$^3$. ♀ ad. sk. | Gurgaon distr., March, May, July, Nov. (*W. N. Chill*). | Hume Coll. |
| *p*$^3$. Imm. sk. | Dehra Dhoon, March. | Hume Coll. |
| *q*$^3$. Ad. sk. | Saharunpur (*Dr. Royle*). | India Museum. |
| *r*$^3$. ♀ ad. sk. | Umbala, Feb. (*Dr. Scott*). | Tweeddale Coll. |
| *s*$^3$. Ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *t*$^3$. Ad. sk. | Kumaon. | Tweeddale Coll. |
| *u*$^3$. ♀ ad. sk. | Cawnpore, Jan. | Hume Coll. |
| *v*$^3$, *w*$^3$. Ad. sk. | Allahabad, Dec. (*J. Cockburn*). | Hume Coll. |
| *x*$^3$–*a*$^4$. Ad.; *b*$^4$. Imm. sk. | N.W. Provinces. | Pinwill Coll. |
| *c*$^4$, *d*$^4$, *e*$^4$. Ad. sk. | Oudh, Nov., Dec., Jan. | Hume Coll. |
| *f*$^4$. ♂ juv. sk. | Rahimabad, Aug. (*G. Reid*). | Hume Coll. |
| *g*$^4$. Ad. sk. | Lucknow, March. | Colonel Way [P.]. |
| *h*$^4$. Ad. sk. | Behar. | Hodgson Coll. |
| *i*$^4$–*o*$^4$. Ad.; *p*$^4$. Imm. sk. | Nepal. | Hodgson Coll. |
| *q*$^4$. Ad. sk. | Sikhim. | Hume Coll. |
| *r*$^4$. Ad. sk. | Darjiling. | India Museum. |

| | | |
|---|---|---|
| $s^4$. Ad. sk. | Buxa Doars, Jan. (*L. Mandelli*). | Hume Coll. |
| $t^4$–$w^4$. Ad. sk. | Bhotan Doars, Jan., Feb., March (*L. Mandelli*). | Hume Coll. |
| $x^4$, $y^4$. Ad.; $z^4$. Imm. sk. | Assam (*McClelland*). | India Museum. |
| $a^5$. Ad. sk. | Garo Hills. | Tweeddale Coll. |
| $b^5$, $c^5$. Ad. sk. | N. Khasia Hills, Feb. (*A. W. Chennell*). | Tweeddale Coll. |
| $d^5$. Ad.; $e^5$. Imm. sk. | Cachar (*J. Inglis*). | Hume Coll. |
| $f^5$–$n^5$. ♂ ♀ ad. sk. | Manipur, Feb., March, April (*A. O. H.*). | Hume Coll. |
| $o^5$. ♂ ad. sk. | Faridpur, May (*J. R. Cripps*). | Hume Coll. |
| $p^5$. Ad. sk. | Dacca. | Hume Coll. |
| $q^5$. ♂ ad. sk. | Calcutta (*A. O. H.*). | Hume Coll. |
| $r^5$. ♂ ad. sk. | Maunbhoom, Jan. (*R. C. Beavan*). | Tweeddale Coll. |
| $s^5$. Ad.; $t^5$, $u^5$. Imm. sk. | Karen Hills, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| $v^5$, $w^5$, $x^5$. Ad.; $y^5$–$c^6$. Imm. sk. | Tonghoo, Jan., May, Aug., Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| $d^6$. ♂ ad. sk. | Elephant Point, Jan. (*J. Armstrong*). | Hume Coll. |
| $e^6$. ♂ ad. sk. | Borougho Is., March (*J. Armstrong*). | Hume Coll. |
| $f^6$–$r^6$. Ad.; $s^6$. Imm. sk. | Pegu, Dec., Jan.–March, June, Aug. (*E. W. Oates*). | Hume Coll. |
| $t^6$, $u^6$, $v^6$. Ad.; $w^6$, $x^6$, $y^6$. Imm. sk. | Thayetmyo, Dec.–May (*E. W. Oates*). | Hume Coll. |
| $z^6$. ♂ ad. sk. | Rangoon, June (*R. G. W. R.*) | Tweeddale Coll. |
| $a^7$, $b^7$. ♂ ad. sk. | Pahpoon, Jan., Feb. (*W. Davison*). | Hume Coll. |
| $c^7$. ♀ ad. sk. | Thoungsha Gyne R., March (*W. Davison*). | Hume Coll. |
| $d^7$. ♂ ad. sk. | Pabyouk, March (*W. D.*). | Hume Coll. |
| $e^7$. ♀ ad. sk. | Kollidoo, July. | Major Bingham [P.]. |
| $f^7$. ♀ juv. sk. | Kaukaryit, July (*J. Darling*). | Hume Coll. |
| $g^7$. ♂ ad. sk. | Houngthraw River, Feb. (*W. Limborg*). | Tweeddale Coll. |
| $h^7$. ♀ juv. sk. | Myawaddy, Oct. (*C. T. Bingham*). | Hume Coll. |
| $i^7$. ♀ ad. sk. | Karope, March (*W. Davison*). | Hume Coll. |
| $k^7$, $l^7$, $m^7$. ♂ ad.; $n^7$, $o^7$. ♀ ad. sk. | Amherst, Jan., June, July (*W. Davison*). | Hume Coll. |
| $p^7$. ♀ ad. sk. | Meeta Myo, April (*W. Davison*). | Hume Coll. |
| $q^7$. ♀ ad. sk. | Yeaboo, Dec. (*J. Darling*). | Hume Coll. |
| $r^7$–$m^8$. ♂ ♀ ad. sk. | Tavoy, Jan.–June (*W. Davison*). | Hume Coll. |
| $n^8$, $o^8$. Ad. sk. | Mergui, June–Nov. (*W. Davison*). | Hume Coll. |
| $p^8$, $q^8$. ♀ ad. sk. | Pakchan, Dec., Jan. (*W. Davison*). | Hume Coll. |
| $r^8$. Ad. sk. | Siam (*Sir R. Schomburgk*). | Seebohm Coll. |
| $s^8$. Ad. sk. | Bangkok (*Mouhot*). | Tweeddale Coll. |

| | | |
|---|---|---|
| $t^8$. Ad. sk. | Cambodia (*Mouhot*). | Tweeddale Coll. |
| $u^8$. Imm. sk. | Saigon. | M. E. Pierre [P.]. |
| $v^8$–$b^9$. ♂ ad.; $c^9$, $d^9$, $e^9$. ♀ ad. sk. | Kossoum, April, May, July (*J. Darling*). | Hume Coll. |
| $f^9$, $g^9$. ♂ ad. sk. | Salang, March (*J. Darling*). | Hume Coll. |
| $h^9$. ♂ ad. sk. | Tapraw, April (*J. Darling*). | Hume Coll. |
| $i^9$, $k^9$. ♂ ♀ ad. sk. | Poongyah, July, Aug. (*J. Darling*). | Hume Coll. |
| $l^9$–$o^9$. Ad.; $p^9$, $q^9$. Imm. sk. | Malacca, July (*W. Davison*). | Hume Coll. |
| $r^9$. Imm. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| $s^9$. ♀ imm. sk. | Pulo Seban, Oct. (*W. Davison*). | Hume Coll. |
| $t^9$. ♂ imm. sk. | Kuroo, Nov. (*W. Davison*). | Hume Coll. |
| $u^9$. ♂ ad. sk. | Acheen, Sumatra, Feb. (*W. Davison*). | Hume Coll. (Type of *C. acheenensis*.) |
| $r^9$–$d^{10}$. Ad. et imm. sk. | Sumatra, Sept., Oct. | Tweeddale Coll. |
| $e^{10}$. Ad.; $f^{10}$, $g^{10}$. Imm. sk. | Lampong (*E. C. Buxton*). | Tweeddale Coll. |
| $h^{10}$, $i^{10}$, $k^{10}$. Ad.; $l^{10}$. Imm. sk. | Java. | Tweeddale Coll. |
| $m^{10}$–$q^{10}$. Ad. sk. | Borneo. | Seebohm Coll. |
| $r^{10}$, $s^{10}$. ♂ ♀ ad. sk. | Sarawak (*A. H. Everett*). | Tweeddale Coll. |
| $t^{10}$, $u^{10}$. Ad. sk. | Labuan. | Sir H. Low [C.]. |
| $v^{10}$, $w^{10}$. Ad.; $x^{10}$. Imm. sk. | Puerto Princesa, Palawan, Dec., Jan. (*A. H. Everett*). | Tweeddale Coll. |
| $y^{10}$, $z^{10}$. Ad.; $a^{11}$, $b^{11}$, $c^{11}$. Imm. sk. | Ningpo, Dec., Jan., March, Aug. | Consul Swinhoe [C.]. |
| $d^{11}$. Ad. sk. | Fokien. | Gould Coll. |
| $e^{11}$, $f^{11}$. Ad.; $g^{11}$. Imm. sk. | Foochow, May, Sept. (*R. Swinhoe*). | Seebohm Coll. |
| $h^{11}$. ♀ ad. sk. | Hongkong, April (*R. S.*). | Seebohm Coll. |
| $i^{11}$. Imm. sk. | Canton. | Tweeddale Coll. |
| $k^{11}$, $l^{11}$. ♂ ♀ ad.; $m^{11}$. ♀ imm. sk. | Hainan, Feb. (*R. S.*). | Seebohm Coll. |
| $n^{11}$. Bones of trunk. | Nepal. | Hodgson Coll. |
| $o^{11}$. Skeleton. | India. | Purchased. |

### 15. **Centropus purpureus.** (Plate XIII.)

Cuculus bubutus (*nec Horsf.*), *Raffl. Trans. Linn. Soc.* xiii. p. 286 (1820).

*Adult.* Head, neck, and body black, with broad glossy purplish edges to all the feathers; wings chestnut, inclining to rufous-buff on the lesser wing-coverts; scapulars, innermost secondaries, and back very dark brown, the remainder of the secondaries broadly edged with that colour, the primaries and greater wing-coverts with broad ends of the same dark brown colour; rump and upper tail-coverts slightly glossed with purple; tail dull blackish brown like

the inner half of the wings. Total length 18 inches, culmen 1·7, wing 8·3, tail 9·6, tarsus 2·3.

A specimen of this very distinct species marked "*Centropus purpureus*," was purchased many years ago from the Laugier Collection. The habitat attached to the specimen was "Mindanao," but recent explorers in that island have failed to re-discover the species, and the locality is probably erroneous. I have found a second specimen in the Museum from Sumatra, obtained in that island by Sir S. Raffles, and this is probably the correct habitat of the species. I have adopted the MSS. name of *purpureus*, though I cannot find that it has ever been mentioned in print.

*Hab.* Sumatra.

| | | |
|---|---|---|
| *a*. Ad. sk. | [Sumatra.] | Laugier Coll. |
| *b*. Ad. sk. | Sumatra (*Sir S. Raffles*). | India Museum. |

### 16. Centropus viridis.

Coucou vert d'Antigua, *Sonn. Voy. Nouv. Guin.* p. 121, pl. 80 (1776).
Cuculus viridis, *Scop. Del. Fl. Faun. Insub.* ii. p. 89 (1786).
Cuculus ægyptius, *Gm. Syst. Nat.* i. p. 420, vars. β, γ (1788).
Coucou des Philippines, *Buff. Hist. Nat. Ois.* vi. p. 369 (1779); *Daubent. Pl. Enl.* 824 (1783).
Polophilus viridis, *Steph. Gen. Zool.* ix. p. 55 (1815).
Centropus rufipennis, *Ill. Abhandl. Berl. Acad.* 1816, p. 224.
Cuculus philippensis, *Cuv. Règne An.* i. p. 436 (1817).
Corydonix viridis, *Vieill. Nouv. Dict.* xxxiv. p. 299 (1818); *id. Enc. Méth.* iii. p. 1335 (1823).
Corydonix pyrrhopterus, *Vieill. Enc. Méth.* iii. p. 1353 (1823).
Centropus viridis, *Blyth, J. A. S. Beng.* vi. p. 1102 (1842); *Gray, Gen. B.* ii. p. 455 (1846); *id. Hand-l. B.* ii. p. 213, no. 8956 (1870).
Centrococcyx viridis, *Cab. & Heine, Mus. Hein.* iv. p. 110, note (1862); *Walden, Trans. Z. S.* viii. p. 58 (1872), ix. p. 163 (1875); *id. P. Z. S.* 1877, pp. 543, 691, 758, 823; *Sharpe, Trans. Linn. Soc.* 1877, p. 322; *Tweedd. P. Z. S.* 1878, pp. 283, 341, 709, 1879, p. 946; *id. Rep. Voy. 'Challenger,'* ii. p. 15 (1880); *Wardlaw Ramsay, App. Tweeddale's Orn. Works*, p. 658 (1880); *Kütter, J. f. O.* 1882, p. 175; *Guillemard, P. Z. S.* 1885, p. 257; *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 12 (1890).

*Adult male.* General plumage glossy greenish black, with the wings deep chestnut; feathers of the head, neck, mantle, and chest with strong glossy shafts; primaries with broad brown ends; inner secondaries washed with brown; under wing-coverts greenish black, with a few of the greater ones rufous: "bill blackish; lower mandible leaden grey; legs darkest shade of leaden grey; iris crimson" (*A. H. Everett*). Total length 15·2 inches, culmen 1·25, wing 6·2, tail 9, tarsus 1·5.

*Adult female.* Similar in plumage to the male. Total length 17 inches, culmen 1·3, wing 6·4, tail 9, tarsus 1·7.

*Immature.* Differs from the adult in having the head and neck mottled with buff spots or partial bars; the lower back and breast

partially barred with buff; all the wing-feathers barred with dusky black: "iris very pale raw sienna: bill brownish black, with the mandible and tip of maxilla grey; legs and feet very dark grey" (*A. H. Everett*).

In one immature specimen there are no dark bars on the wings, and only a few indications of bars on the scapulars. Unlike the following allied species, the present one appears to have no seasonal plumage.

*Hab.* Philippine Islands.

| | | |
|---|---|---|
| *a*. Ad. sk. | Philippines. | Purchased. |
| *b*, *c*. ♂ ad.; *d*. ♀ imm. sk. | Luzon, Jan., Feb. (*A. B. Meyer*). | Tweeddale Coll. |
| *e*. ♂ ad.; *f*. ♀ imm. sk. | Monte Alban, Luzon, Feb., Mar. (*A. H. Everett*). | Tweeddale Coll. |
| *g*, *h*. ♀ ad.; *i*, *k*. ♂ ♀ juv. sk. | San Mateo, Luzon, Feb. (*A. H. Everett*). | Tweeddale Coll. |
| *l*. Ad. sk. | Manila. | Gould Coll. |
| *m*. ♂ ad.; *n*, *o*, *p*. ♀ ad. sk. | Cebu, March, April (*A. H. Everett*). | Tweeddale Coll. |
| *q*. Pull. sk. | Samar, April 18. | E. L. Moseley, Esq. [C.]. |
| *r*. ♀ ad. sk. | Ilo-ilo, Panay. | Voy. of H.M.S. 'Challenger.' |
| *s*. ♀ ad. sk. | Negros, March (*A. B. Meyer*). | Tweeddale Coll. |
| *t*, *u*. ♂ ad. sk. | Valencia, Negros, Aug. (*A. H. Everett*). | Tweeddale Coll. |
| *v*. ♀ ad. sk. | Guimaras, March (*A. B. Meyer*). | Tweeddale Coll. |
| *w*, *x*. ♂ ad. sk. | Surigao, May (*A. H. Everett*). | Tweeddale Coll. |
| *y*. ♀ ad.; *z*. ♂ juv. sk. | Zamboanga, March (*A. H. Everett*). | Tweeddale Coll. |
| *a'*, *b'*. Ad. sk. | Mactan, Aug., Sept. (*A. H. Everett*). | Seebohm Coll. |
| *c'*. ♂ juv. sk. | Laguna de Bai, Nov. 15 (*A. H. Everett*). | Seebohm Coll. |
| *d'*. Ad. sk. | Brunei River. | Bassett Smith, Esq. [P.]. |

### 17. Centropus toulou.

Le Coucou de Madagascar, *Briss. Orn.* iv. p. 138, pl. 13. fig. 2 (1760).
Cuculus toulou, *P. L. S. Müll. S. N. Suppl.* p. 90 (1776).
Toulou, *Montb. Hist. Nat. Ois.* vi. p. 369, pl. xvii. (1779).
Long-heeled Cuckoo, *Lath. Gen. Syn.* i. p. 524 (1781).
Le Coucou de Madagascar, appellé Toulou, *Daubent. Pl. Enl.* 295. fig. 1.
Cuculus melanorhynchus, *Bodd. Tabl. Pl. El.* p. 18 (1783).
Cuculus tolu, *Gm. S. N.* i. p. 422 (1788).
Polophilus tolu, *Steph. Gen. Zool.* ix. p. 52 (1815).
Centropus tolu, *Ill. Abhandl. k. Ak. Wiss. Berlin*, 1816, p. 224; *Bp. Consp.* i. p. 107 (1850); *id. Consp. Vol. Zygod.* p. 15 (1854); *Pelz. Naum.* 1858, p. 497; *Roch & E. Newton, Ibis*, 1863, p. 166; *E. Newton, t. c.* p. 452; *Scl. P. Z. S.* 1863, p. 164; *A. Newton, P. Z. S.* 1865, p. 834; *Grand. Rev. et Mag. Zool.* 1867, p. 389.

Corydonix tolu, *Vieill. N. Dict.* xxxiv. p. 295 (1819).
Centropus toulou, *Temm. Tabl. Méth.* p. 53 (1838); *Cass. Pr. Acad. Philad.* 1864, p. 243; *Gray, Hand-l. B.* ii. p. 214, no. 8970; *Sharpe, P. Z. S.* 1873, p. 624; *Hartl. Vög. Madag.* p. 251 (1877).
Centropus melanorhynchus, *Gray, Gen. B.* ii. p. 455 (1846); *Cab. & Heine, Mus. Hein.* iv. p. 108, note (1860).
Centropus superciliosus (*nec Hempr. & Ehr.*), *Hartl. J. f. O.* 1860, p. 108; *id. Faun. Madag.* p. 60 (1861).
Centropus madagascariensis, *Schl. Mus. Pays-Bas*, Cuculi, p. 65 (1864); *id. & Poll. Faun. Madag., Ois.* p. 57 (1868); *Milne-Edw. & Grandid. Hist. Nat. Madag., Ois.* i. p. 179, *Atlas*, i. pls. 67, 68, 69, 70, 84, fig. juv. (1879).
Centropus lafresnayanus, *Verr. in Vinson, Voy. Madag.* pp. 3, 5 (1865); *id. Nouv. Arch. Mus.* ii. p. 23, pl. 2 (1866); *Gray, Hand-l. B.* ii. p. 214, no. 8971 (1870).
Centropus sakalava, *Grandid. Rev. et Mag. Zool.* 1867, p. 87.
Centropus leucuropyga, *Grandid. Rev. et Mag. Zool.* 1867, pp. 87, 255.

*Adult male in breeding-plumage.* Similar to *C. viridis*, but distinguished by the darker and more bluish shade of the head, neck, and upper back; the rufous colour of the wings slightly paler, and the under wing-coverts mostly rufous, often with no black on them; bill blackish, inclining to grey towards the tip and on the lower mandible; iris red; feet slaty grey. Total length 15·7 inches, culmen 1·2, wing 5·9, tail 9·4, tarsus 1·4.

*Adult male in non-breeding plumage.* Differs in the head, neck, and front of chest being brown, mottled with black and rufous, and with a buff shaft-stripe to each feather.

*Immature.* Differs from the adult in having the wings barred with dusky black; the head, neck, and chest mottled with buff or rufous-buff bars, with only slight indications of shaft-stripes; entire body and tail barred with buff, the latter mostly so towards the end.

"*Nestling.* Black, barred with rufous above and with yellowish below" (*Grandidier*, l. c. p. 180, pl. 84, fig. juv.).

As the present species closely resembles *C. viridis* from the Philippines, it may be of service to point out the only really distinctive characters which separate the two birds, though even these are variable. In *C. toulou* the colouring is slightly brighter and bluer on the head and neck, the under wing-coverts mostly, if not entirely, rufous, occasionally with a black mottling. The buff shaft-stripes are rarely ever absent, especially towards the scapulars, and are never met with in specimens of *C. viridis* which lose all trace of immaturity on the wings. *C. toulou* has two distinct seasonal plumages, while *C. viridis* shows no such change.

*Centropus leucuropyga*, Grand., is a remarkable variety mentioned by MM. Milne-Edwards and Grandidier as found throughout the west coast of Madagascar. It is of large size and with white upper tail-coverts; but as these gentlemen insist that it is only a variety of *C. toulou*, I have united it to the latter, never having seen a specimen myself.

*Hab.* Madagascar.

| | | |
|---|---|---|
| *a*. Imm. st. | Madagascar. | Purchased. |
| *b*, *c*. Ad. et imm. sk. | Madagascar. | Purchased. |
| *d*. *e*. Ad.; *f i*. Imm. sk. | Madagascar. | Seebohm Coll. |
| *k*, *l*, *m*. Ad. sk. | Madagascar. | Shelley Coll. |
| *n*. Imm. sk. | Madagascar. | G. F. Scott Elliot, Esq. [P.]. |
| *o*. ♀ juv. sk. | Ankafana Forests, Feb. (*W. Deans Cowan*). | Tweeddale Coll. |
| *p*. ♀ imm. sk. | Nossi-Bé. | F. Pollen [C.]. |
| *q*. Bones of trunk. | Madagascar. | Rev. W. Deans Cowan [C.]. |

## 18. Centropus bengalensis.

Cuculus bengalensis, *Gm. Syst. Nat.* i. p. 412 (1788).
Centropus ægyptius, var. γ (*nec Gm.*), *Lath. Ind. Orn.* i. p. 213 (1790).
? Coucal rufin, *Levaill. Ois. Afr.* v. p. 82, pl. 221 (1806).
? Polophilus lathami, *Leach, Zool. Misc.* i. p. 127, pl. 56 (1814).
? Polophilus rufus, *Steph. Gen. Zool.* ix. p. 50 (1815).
Polophilus bengalensis, *Steph. t. c.* p. 50.
Cuculus rufinus, *Cuv. Règne Anim.* i. p. 426, note (1817).
Corydonix lathami, *Vieill. Nouv. Dict.* xxxiv. p. 297 (1819).
Corydonix rufinus, *Vieill. t. c.* p. 298.
Corydonix maculatus, *Bonn. & Vieill. Enc. Méth.* p. 1353 (1823).
Centropus bengalensis, *Steph. Gen. Zool.* xiv. p. 213 (1826); *Blyth, J. A. S. Beng.* xi. p. 1104 (1842), xii. p. 240 (1843); *Gray, Hand-l. B.* ii. p. 213, no. 8957 (1870); *Hume, Nests & Eggs Ind. B.* p. 144 (1873); *Blyth & Wald. Cat. Mamm. & B. Burma*, p. 82 (1875); *David & Oust. Ois. Chine*, p. 59 (1877); *Hume, Str. F.* vi. p. 171 (1878); *Bingham, op. cit.* ix. p. 169 (1880); *Kelham, Ibis*, 1881, p. 395; *Davison, t. c.* p. 361; *Styan, Ibis*, 1887, p. 230.
Centropus rufinus, *Steph. Gen. Zool.* xiv. p. 214; *Bp. Consp.* i. p. 106 (1850).
Centropus lathami, *Steph. Gen. Zool.* xiv. p. 214 (1826).
Centropus tecticauda, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 349. no. 495 (1830).
Centropus pygmæus, *Hodgs. t. c.* pls. 349, 350, nos. 495, 522; *J. E. Gray, Zool. Misc.* p. 85, nos. 495, 522 (1831).
Centropus lepidus (*nec Horsf.*), *McClell. P. Z. S.* 1839, p. 166; *Blyth, J. A. S. Beng.* xi. p. 1102 (1842), xiv. p. 202 (1845).
Centropus dimidiatus, *Blyth, J. A. S. Beng.* xiii. p. 390 (1844); *Swinh. Ibis*, 1860, p. 360.
Centropus viridis (*nec Scop.*), *Blyth, Cat. B. Mus. As. Soc.* p. 78 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 685 (1856–58); *Swinh. P. Z. S.* 1863, p. 266; *id. Ibis*, 1870, p. 235.
Centropus, sp. ?, *Swinh. Ibis*, 1860, p. 359, 1861, p. 48.
Centropus lignator, *Swinh. Ibis*, 1861, p. 48; *Gray, Hand-l. B.* ii. p. 214, no. 8966 (1870).
Centrococcyx lignatus, *Cab. & Heine, Mus. Hein.* iv. p. 111, note (1862).
Centrococcyx lepidus, *Cab. & Heine, t. c.* p. 109.
Centrococcyx bengalensis, *Cab. & Heine, t. c.* p. 111; *Wald. Trans. Z. S.* viii. p. 59 (1872); *Ball, Str. F.* ii. p. 395 (1874); *Hume, op. cit.* iii. p. 84 (1875), v. p. 28 (1877); *Ball, op. cit.* vii. p. 208 (1878); *Cripps, t. c.* p. 266; *Hume, op. cit.* viii. p. 55 (1879);

*A. Müll. J. f. O.* 1882, p. 410; *Oates, Handb. B. Brit. Burmah*, ii. p. 127 (1883); *id. ed. Hume's Nests & Eggs*, ii. p. 406 (1890).
Centropus rectunguis, pt., *Schl. Mus. Pays-Bas*, Cuculi, p. 69 (1864).
Centrococcyx dimidiatus, *Wald. Trans. Z. S.* viii. p. 59 (1872).

*Adult male in breeding-plumage.* General plumage black, with the wings and interscapular region chestnut; head, neck, and under surface of the body glossed with purplish blue and with glossy black shafts to the feathers; lower back and tail glossed with green, the feathers of the latter with narrow whitish ends; wings and interscapular region bright chestnut, contrasting sharply with the blue-black of the hind neck; a few of the wing-coverts with white shafts; ends of the quills brown; inner secondaries slightly washed with brown; under wing-coverts rufous: bill and legs black; iris crimson. Total length 14 inches, culmen 1·1, wing 6·6, tail 7·5, tarsus 1·6.

*Adult female in breeding-plumage.* Similar to the male. Total length 14·8 inches, culmen 1·1, wing 6·6, tail 8·6, tarsus 1·6.

*Adult female in seasonal plumage.* The feathers of the crown, back of neck, and mantle dark brown, washed with rufous on the edges and with buff shaft-stripes; wings and tail as in summer plumage, the latter with rufous-buff ends to the feathers; lower back and upper tail-coverts narrowly barred with rufous; throat and underparts buff, with glossy buff shafts to the feathers and with dusky wavy bars, most complete and numerous on the sides of the body and thighs, absent on the chin and down the centre of body; vent and under tail-coverts greenish black barred with buff, the dark bars on these parts being wider than the buff ones; under wing-coverts rufous like the quills, the latter with brown ends: bill yellow, shading into dark brown on the culmen; legs black. Total length 15·5 inches, culmen 1·1, wing 6·7, tail 8·6, tarsus 1·15.

*Adult male in seasonal plumage.* Similar in plumage to the female.

*Hab.* Southern India: Eastern Himalayas to Eastern Bengal, Assam, the Burmese Countries to Southern China and Formosa.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Perimady, Travancore, Feb. | F. Bourdillon, Esq. [C.]. |
| *b–e.* Ad. et imm. sk. | Nepal. | Hodgson Coll. |
| *f, g, h.* Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *i.* Ad. sk. | Native Sikhim, March (*L. Mandelli*). | Hume Coll. |
| *k–q.* Ad. et imm. sk. | Sikhim, Sept., Nov. to Jan. (*L. Mandelli*). | Hume Coll. |
| *r, s.* Ad. sk. | Mongphoo, Darjeeling, March. | Hume Coll. |
| *t–w.* Ad. et imm. sk. | Darjeeling. | Seebohm Coll. |
| *x, y, z.* Ad. sk. | Buxa Doars, Jan. (*L. Mandelli*). | Hume Coll. |
| *a'–d'.* Ad. sk. | Bhotan Doars, Nov., Dec., April, May (*L. Mandelli*). | Hume Coll. |
| *e'.* Ad. sk. | Assam (*McClelland*). | India Museum. |

| | | |
|---|---|---|
| *f'*. ♀ ad. sk. | Beltollah, Assam, Jan. (*A. W. Chennell*). | Tweeddale Coll. |
| *g'*. ♂ ad.; *h'*, *i'*, *k'*. ♀ ad. sk. | Sadhya, April to June (*J. Cockburn*). | Hume Coll. |
| *l'*. ♀ ad. sk. | Tippook (*J. Cockburn*). | Hume Coll. |
| *m'*. ♂ ad. sk. | Dollah, May (*J. Cockburn*). | Hume Coll. |
| *n'*, *o'*. Ad. sk. | N. Khasia Hills, Jan. (*A. W. Chennell*). | Tweeddale Coll. |
| *p'*–*s'*. Ad. et imm. sk. | Cachar (*J. Inglis*). | Hume Coll. |
| *t'*, *u'*. Ad. sk. | Manipur, May (*A. O. H.*). | Hume Coll. |
| *v'*. ♂ ad. sk. | Faridpur, May (*J. R. Cripps*). | Hume Coll. |
| *w'*–*g''*. Ad. et imm. sk. | Dacca, March. | Hume Coll. |
| *h''*. Ad. sk. | Dacca (*Tytler*). | Tweeddale Coll. |
| *i''*. ♀ ad. sk. | Calcutta, Aug. | Hume Coll. |
| *k''*. ♀ ad.; *l''*. ♂ jr. sk. | Tonghoo, Jan., May (*R. G. W. R.*). | Tweeddale Coll. |
| *m''*. ♂ jr. sk. | Karen-nee, March (*R.G.W.R.*). | Tweeddale Coll. |
| *n''*–*o''*. Ad. sk. | Pegu, June, Sept. | Oates Coll. |
| *p''*–*s''*. Ad. sk. | Formosa, April, May (*R. Swinhoe*). | Tweeddale Coll. |

### 19. Centropus javanicus.

Cuculus javanicus, *Dumont, Dict. Sc. Nat.* xi. p. 144 (1818).

Centropus tolu (*nec Gm.*), *Raffles, Trans. Linn. Soc.* xiii. p. 285 (1822).

Centropus lepidus, *Horsf. Trans. Linn. Soc.* xiii. p. 180 (1822); *Steph. Gen. Zool.* xiv. p. 214 (1826); *Bernst. J. f. O.* 1859, p. 187; *Gray, Hand-l. B.* ii. p. 213, no. 8959 (1870).

Centropus affinis, *Horsf. Trans. Linn. Soc.* xiii. p. 180 (1822); *Vig. Mem. Raffl.* p. 670 (1830); *Blyth, J. A. S. Beng.* xi. p. 1105 (1842); *Bp. Consp.* i. p. 108 (1850); *Bernst. J. f. O.* 1859, p. 185, 1860, p. 269; *Scl. P. Z. S.* 1863, p. 209; *Finsch, Neu-Guin.* p. 160 (1865); *Gray, Hand-l. B.* ii. p. 213, no. 8960 (1870); *Blasius, J. f. O.* 1883, p. 132, 1888, p. 374; *Sharpe, Ibis*, 1888, p. 198.

Centropus pumilus, *Less. Traité*, p. 136 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 66.

Centropus molkenboeri, *Bp. Consp.* i. p. 108 (1850); *Gray, Hand-l. B.* ii. p. 214, no. 8964 (1870).

Centropus medius, *Bp. Consp.* i. p. 108 (1850), *ex Müller, MSS. in Mus. Lugd.*; *Pucher. Rev. et Mag. Zool.* 1852, p. 475, note; *Bp. Consp. Vol. Zygod.* p. 86 (1854); *Gray, P. Z. S.* 1860, p. 359; *Wallace, op. cit.* 1863, p. 23; *Finsch, Neu-Guin.* p. 59 (1865).

Centrococcyx lepidus, *Cab. & Heine, Mus. Hein.* iv. p. 109 (1862); *Hartert, J. f. O.* 1889, p. 372.

Centrococcyx affinis, *Cab. & Heine, t. c.* p. 110; *Wald. Trans. Z. S.* viii. pp. 56, 58, 112 (1872); *Meyer, Ibis*, 1879, p. 70; *id. Sitz. nat. Ges. Isis*, p. 18 (1884); *Guillemard, P. Z. S.* 1885, pp. 504, 551; *Whitehead, Ibis*, 1890, p. 47.

Centropus moluccensis, *Cab. & Heine, l. c.* (*ex Bernst. MSS. in Mus. Berol.*); *Gray, Hand-l. B.* ii. p. 214, no. 8967 (1870).

Centrococcyx moluccensis, *Cab. & Heine, Mus. Hein.* iv. p. 113 (1862); *Heine, J. f. O.* 1863, p. 357; *Walden, Trans. Z. S.* viii. pp. 58, 60 (1872).

Centropus rectunguis, pt., *Schl. Mus. Pays-Bas*, Cuculi, p. 69 (1864).

Centrococcyx javanensis, *Walden, Trans. Z. S.* viii. pp. 58, 60 (1872); *id. Ibis*, 1872, p. 367; *Salvad. Ucc. Born.* p. 76 (1874); *id. Ann. Mus. Civ. Gen.* vii. p. 651 (1875); *Sharpe, Ibis*, 1876, p. 34; *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 188 (1879); *Nicholson, Ibis*, 1881, p. 141, 1883, p. 241; *Blasius, Zeitschr. ges. Orn.* ii. p. 263 (1885); *Everett, P. Z. S.* 1889, p. 226; *Sharpe, Ibis*, 1890, p. 14; *Everett, Journ. Straits Branch As. Soc.* 1889, p. 175.

Centrococcyx medius, *Walden, Trans. Z. S.* viii. pp. 57, 58 (1872); *Salvad. Ann. Mus. Civ. Gen.* vii. p. 762 (1875), xiii. p. 463 (1878); *id. Orn. Papuasia*, i. p. 375 (1880).

Centropus bengalensis, var. javanica, *Brügg. Abhandl. nat. Ver. Brem.* v. p. 61 (1876).

Centropus javanensis, *Sharpe, Ibis*, 1879, p. 946; *id. P. Z. S.* 1879, p. 328.

*Adult male in breeding-plumage.* Similar to *C. bengalensis*, but may be readily distinguished by the darker and browner colouring of the upper back, scapulars, and inner secondaries, which colour passes almost imperceptibly into the greenish black of the neck, these colours being sharply defined in *C. bengalensis*; the head, neck, and body are glossed with green, more like the colour of the tail than in *C. bengalensis*. Total length 16·3 inches, culmen 1·3, wing 6·3, tarsus 1·7.

*Adult female.* Similar in plumage to the male. Total length 14 inches, culmen 1·15, wing 6·3, tail 8, tarsus 1·65.

The seasonal plumage is similar to that of *C. bengalensis*, and in both species lasts from November till April. The present species varies greatly in size, as the following measurements will show:—

| | Total length. in. | Culmen. in. | Wing. in. | Tail. in. | Tarsus. in. |
|---|---|---|---|---|---|
| Ceram, ♀ ad. .... | 18·3 | 1·5 | 7·8 | 9·8 | 1·9 |
| Leyte, juv. ..... | 12·1 | 1·0 | 5·4 | 6·9 | 1·5 |
| Singapore ..... | 12·2 | 1·0 | 5·3 | 6·5 | 1·4 |

*Hab.* Eastern Bengal and the Burmese countries to China, south through the Malayan Peninsula to Sumatra, Java, Borneo, the Philippines, Celebes, and the Moluccas.

| | | |
|---|---|---|
| *a.* Ad. sk. | Khasia Hills (*Griffith*). | India Museum. |
| *b.* Imm. sk. | Dibrughur, Assam. | Tweeddale Coll. |
| *c.* Imm. sk. | Tipperah Hills, Jan. | Hume Coll. |
| *d.* Imm. sk. | Thayetmyo, Nov. (*E. W. Oates*). | Hume Coll. |
| *e–k.* Ad. et imm. sk. | Lower Pegu, Dec., Jan., April, Aug. | Oates Coll. |
| *l.* ♂ imm. sk. | Kollidoo, Tenasserim, Nov. (*W. Davison*). | Hume Coll. |
| *m.* ♂ imm. sk. | Thoungyeen Forest, March (*C. T. Bingham*). | Hume Coll. |
| *n.* ♀ jr. sk. | Tavoy, March (*W. Davison*). | Hume Coll. |
| *o.* Imm. sk. | Bankasoon, Feb. (*W. Davison*). | Hume Coll. |
| *p.* ♀ imm. sk. | Malewoon, April (*W. Davison*). | Hume Coll. |
| *q.* Imm. sk. | Siam. | Tweeddale Coll. |

| | | |
|---|---|---|
| *r*. Imm. sk. | Mts. of Perak. | L. Wray, Esq. [P.]. |
| *s*. Ad.; *t*, *u*, *v*. Imm. sk. | Penang. | |
| *w*, *x*. Imm. sk. | Dingding Islands, Feb. (*W. Davison*). | Hume Coll. |
| *y*, *z*, *a'*. Imm. sk. | Klang, Jan., May, July (*W. Davison*). | Hume Coll. |
| *b'*–*l'*. Ad. et imm. sk. | Malacca, July. | Hume Coll. |
| *m'*. ♀ ad. sk. | Kuroo, Nov. (*W. Davison*). | Hume Coll. |
| *n'*. ♂ imm. sk. | Johore, Aug. (*W. Davison*). | Hume Coll. |
| *o'*–*s'*. Ad. et imm. sk. | Singapore Island, Jan., Feb., Sept. (*W. Davison*). | Hume Coll. |
| *t'*–*d''*. Ad. et juv. sk. | Sumatra, Sept., Oct., Jan. (*Carl Bock*). | Tweeddale Coll. |
| *e''*, *f''*, *g''*. Ad. et imm. sk. | Java (*Horsfield*). | India Museum. |
| *h''*–*m''*. Ad. et imm. sk. | Java. | Seebohm Coll. |
| *n''*. Ad. sk. | Billiton. | Tweeddale Coll. |
| *o''*. Ad. sk. | Borneo. | Rajah Brooke [P.]. |
| *p''*. Imm. sk. | Sarawak, June (*A. H. Everett*). | Seebohm Coll. |
| *q''*. ♀ ad. sk. | Jambusan (*A. H. Everett*). | Tweeddale Coll. |
| *r''*. Juv. sk. | Labuan, March. | A. H. Everett, Esq. [C.]. |
| *s''*, *t''*. Imm. sk. | Lumbidan (*H. T. Ussher*). | Seebohm Coll. |
| *u''*, *v''*, *w''*. Ad. sk. | Banjarmassing (*J. Motley*). | Wallace Coll. |
| *x''*, *y''*. ♂ jr. sk. | Lombock. | Wallace Coll. |
| *z''*, *a*$^3$, *b*$^3$. Ad. sk. | Flores. | Wallace Coll. |
| *c*$^3$–*f*$^3$. Ad. sk. | Timor. | Wallace Coll. |
| *g*$^3$–*l*$^3$. Ad. et imm. sk. | Celebes. | Seebohm Coll. |
| *m*$^3$. Ad. sk. | Menado. | Gould Coll. |
| *n*$^3$. ♀ ad. sk. | Butubassi, Celebes, Nov. (*A. B. Meyer*). | Tweeddale Coll. |
| *o*$^3$–*r*$^3$. Ad. et imm. sk. | Makassar. | A. R. Wallace, Esq. [C.]. |
| *s*$^3$, *t*$^3$. Ad. et imm. sk. | Sanghir Islands. | Seebohm Coll. |
| *u*$^3$. ♂ ad. sk. | Calapan, Mindoro, May. | E. L. Moseley, Esq. [C.]. |
| *v*$^3$. ♂ imm. sk. | Concepcion, Panay, Jan. | E. L. Moseley, Esq. [C.]. |
| *w*$^3$. ♀ ad. sk. | San Antonio, Negros, Feb. | E. L. Moseley, Esq. [C.]. |
| *x*$^3$, *y*$^3$. ♂ ♀ ad. sk. | South Leyte, Sept., Oct. (*A. H. Everett*). | Tweeddale Coll. |
| *z*$^3$. ♂ ad. sk. | N. Bohol, Oct. (*A. H. Everett*). | Tweeddale Coll. |
| *a*$^4$–*c*$^4$. Ad. sk. | N. Ceram. | Wallace Coll. |
| *d*$^4$. Ad. sk. | Gilolo. | Wallace Coll. |
| *e*$^4$. Ad. sk. | Amboina. | Seebohm Coll. |
| *f*$^4$–*n*$^4$. Ad. et imm. sk. | Formosa, Feb. to April (*R. Swinhoe*). | Seebohm Coll. |
| *o*$^4$. Imm. sk. | Tingchow, Dec. (*R. Swinhoe*). | Seebohm Coll. |
| *p*$^4$. Imm. sk. | Fokien, Sept. (*R. Swinhoe*). | Seebohm Coll. |
| *q*$^4$. Imm. sk. | Amoy, Jan. (*R. Swinhoe*). | Seebohm Coll. |
| *r*$^4$. ♀ imm. sk. | Hong Kong, March (*R. Swinhoe*). | Seebohm Coll. |
| *s*$^4$. Skeleton. | | Purchased. |

### 20. Centropus nigrorufus.

Le Coucal noiru mâle, *Levaill. Ois. d'Afr.* v. p. 78, pl. 220 (1808); *Sundev. Krit. Framst. Levaill.* p. 48 (1857).
Cuculus nigrorufus, *Cuv. Règne Anim.* i. p. 426 (1817).
Corydonix bicolor, *Vieill. N. Dict. Hist. Nat.* xxxiv. p. 297 (1819).
Centropus nigrorufus, *Steph. Gen. Zool.* xiv. p. 213 (1826); *Bp. Consp.* i. p. 107 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 107, note (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 64 (1864); *Layard, B. S. Afr.* p. 245 (1867); *Gray, Hand-l. B.* ii. p. 213, no. 8952 (1870); *Sharpe, P. Z. S.* 1873, p. 623; *Bocage, Jorn. Lisb.* vi. p. 146 (1877); *Cab. J. f. O.* 1878, p. 238; *Fischer & Reichen. J. f. O.* 1879, p. 341; *Böhm, J. f. O.* 1883, p. 164; *Schalow, t. c.* p. 346; *Sharpe, ed. Layard's B. S. Afr.* pp. 165, 810 (1884); *Fischer, J. f. O.* 1885, p. 123; *Matschie, J. f. O.* 1887, p. 149.
Centropus grilli, *Hartl. J. f. O.* 1861, p. 13; *Cab. & Heine, Mus. Hein.* iv. p. 107 (1868); *Gray, Hand-l. B.* ii. p. 213, no. 8953 (1870); *Sharpe, P. Z. S.* 1873, p. 623.

*Not quite adult.* Head, neck, interscapular region, and underparts black, with a bluish-green gloss; wing rufous, paler than in *C. toulou*; all the wing-coverts with blackish-brown and whitish shaft-stripes; quills with broad brown ends; back duller than the head, and partially barred with rufous-buff; upper tail-coverts and tail uniform glossy greenish black; breast slightly mottled with buff feathers, a few of which are barred with black: bill and legs entirely black; iris crimson. Total length 12·2 inches, culmen 1, wing 6·6, tail 7, tarsus 1·5.

*Immature female.* Differs in having the underparts uniform black glossed with greenish blue; quills barred with blackish brown; back fulvous chestnut, mottled with black bars; the tail-feathers partially barred with buff; bill entirely black. Total length 13·7 inches, culmen 1, wing 6·9, tail 7·8, tarsus 1·6.

This species differs from its allies in having a shorter and entirely black bill, and in the rufous colouring of the wing being paler. Its nearest ally is *C. bengalensis*.

*Hab.* South-eastern Africa, ranging to the Zanzibar district of Eastern Africa, and to Gaboon on the West Coast.

| | | | |
|---|---|---|---|
| *a.* ♀ ad. sk. | Port Natal, Nov. 28 (*Wahlberg*). | Sharpe Coll. |
| *b.* ♀ ad. sk. | Gelidja, East Africa, June (*Dr. Fischer*). | Shelley Coll. |

### 21. Centropus epomidis.

Centropus epomidis, *Bp. Consp.* i. p. 107 (1850), *ex Temm. MSS. in Mus. Lugd.*; *Hartl. Orn. W.-Afr.* p. 186 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 107, note (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 17 (1864); *Gray, Hand-l. B.* ii. p. 213, no. 8951; *Sharpe, P. Z. S.* 1873, p. 622.

*Adult.* Entire head, neck, rump, upper and under tail-coverts,

and the tail black glossed with green; remainder of the plumage nearly uniform chestnut, with dark brown ends to the quills; bill and legs black; iris red. Total length 15·5 inches, culmen 1·25, wing 6·3, tail 8, tarsus 1·6.

*Hab.* Gold Coast, West Africa.

| | | |
|---|---|---|
| *a*. Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |

### 22. Centropus leucogaster.

Polophilus leucogaster, *Leach, Zool. Misc.* i. p. 117 * (1814); *Steph. Gen. Zool.* ix. p. 49, pl. 12.

Corydonix leucogaster, *Vieill. Nouv. Dict. Hist. Nat.* xxxiv. p. 299 (1819).

Centropus senegalensis (*nec Linn.*), *Sundev. Œfv. Kongl. Vet.-Ak. Förh. Stock.* 1849, p. 162.

Centropus francisi, *Bp. Consp.* i. p. 107 (1850); *Hartl. Orn. W.-Afr.* p. 186 (1857); *Cass. Pr. Ac. Philad.* 1859, p. 142; *Schl. Mus. Pays-Bas*, Cuculi, p. 71 (1864); *Gray, Hand-l. B.* ii. p. 213, no. 8950; *Sharpe, P. Z. S.* 1873, p. 621; *Ussher, Ibis*, 1874, p. 54; *Reichen. J. f. O.* 1875, p. 5; *Büttik. Notes Leyden Mus.* vii. p. 222 (1885), viii. p. 264 (1886), x. p. 96 (1888).

*Adult.* Entire head, neck, and upper back glossy blue-black; wings deep chestnut, with brown ends to the quills; remainder of the back black, mottled with chestnut bars about the middle; rump, upper tail-coverts, and tail glossy greenish black, crossed by narrow buff bars except towards the terminal half of the tail; breast white, passing into rufous-buff on the sides of the body and the under tail-coverts; under surface of the wings chestnut like the upper aspect: bill black; irides red; legs slate-colour. Total length 21 inches, culmen 1·7, wing 7·7, tail 12, tarsus 2·1.

*Nestling.* Differs from the adult in having white shaft-stripes on the head and throat, and white shaft-spots on the back of the neck. The wing-feathers are all rather narrowly barred with black, and the breast is slightly more rufous. Total length 11 inches.

*Hab.* West Africa, from Liberia to the Camaroons.

| | | |
|---|---|---|
| *a*. Imm. sk. | [Australia *.] | Old Coll. (Type of species.) |
| *b*. Ad.; *c*. Juv. sk. | Fantee (*Aubinn*). | Seebohm Coll. |
| *d–g*. Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *h*, *i*. Ad. sk. | Gold Coast. | Shelley Coll. |

* The habitat is given as Australia, but this is an evident mistake. The type is in the Museum, and there can be no doubt as to the correctness of this identification.

### 23. Centropus anselli.

Centropus anselli, *Sharpe, P. Z. S.* 1874, p. 204, pl. 33. fig. 1; *id. & Bouvier, Bull. Soc. Zool. France*, i. p. 312 (1876); *Reichen. J. f. O.* 1877, p. 15; *Bocage, Orn. Angola*, p. 542 (1881).
Centropus savorgnani, *Oust. Le Naturaliste*, iii. p. 299 (1886).

*Adult* (type of species). Upper half of head, back of neck, and upper back black, strongly glossed with bluish green; remainder of back rufous-buff, partially barred with black; upper tail-coverts and tail black, glossed with green, the former barred with buff; wings deep chestnut, passing into dark brown on the inner feathers and the ends of the quills; entire throat and underparts tawny buff, the under tail-coverts barred with black; under surface of wings like the upper surface, but with the coverts tawny buff like the breast: bill and legs black; iris red. Total length 22·3 inches, culmen 1·6, wing 8·7, tail 12, tarsus 1·9. (*Mus. Paris.*)

*Young.* Differs from the adult in having buff markings on the shafts of the feathers of the head and back of the neck; the wings regularly barred with black; tail barred with buff, and the throat mottled with partial bars of black.

*Hab.* Gaboon, W. Africa.

| | | | |
|---|---|---|---|
| *a.* Ad. sk. | River Danger, Gaboon. | H. T. Ansell, Esq. [P.]. (Type of species.) |
| *b.* Juv. sk. | Ogowè River. | M. Bouvier [P.]. |

### 24. Centropus fischeri.

Centropus fischeri, *Reichen. J. f. O.* 1887, p. 57.

*Adult* (type of species). Head and neck glossy blue-black; hinder neck and upper back blackish brown; under surface isabelline; upper tail-coverts glossy greenish black; wing rufous-brown; under wing-coverts rufous-brown, with dusky bands, tail glossy greenish black: "bill and legs black; iris carmine-red" (*Fischer*). Culmen 1·5 inches, wing 6·9, tail 8·65. (*Reichenow.*)

This species is only known to me from the description, which seems to agree with the young of *C. anselli*.

*Hab.* Victoria Nyanza.

### 25. Centropus monachus.

Centropus superciliosus (*nec Hempr. & Ehr.*), *Rüpp. Neue Wirb., Vög.* p. 56, pl. 21. fig. 1 (1835); *id. Syst. Uebers.* p. 96 (1845).
Centropus monachus, *Rüpp. Neue Wirb.* p. 57, pl. 21. fig. 2; *id. Syst. Uebers.* p. 96 (1845); *Bp. Consp.* i. p. 107 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 681 (1856); *Hartl. Orn. W.-Afr.* pp. 187, 274 (1857); *Cass. Pr. Ac. Philad.* 1859, p. 142; *Schl. Mus. Pays-Bas*, Cuculi, p. 74 (1864); *Hartl. & Finsch, Vög. Ostafr.* p. 528, note (1870); *Heugl. Orn. N.O.-Afr.* p. 793 (1870); *Blanf. Geol. & Zool. Abyss.* p. 314 (1870); *Finsch, Tr. Z. S.* vii. p. 284 (1870); *Gray, Hand-l. B.* ii. p. 213, no. 8955; *Sharpe, P. Z. S.* 1873, p. 620; *Reichen. &*

*Lühder, J. f. O.* 1873, p. 213; *Ussher, Ibis*, 1874, p. 54; *Reichen. J. f. O.* 1875, p. 5; *Sharpe, ed. Layard's B. S. Afr.* p. 165 (1875); *Bocage, Orn. Angola*, p. 151 (1877); *id. Jorn. Lisb.* vi. pp. 202, 266 (1878); *Shelley, Ibis*, 1883, p. 558; *Hartert, J. f. O.* 1886, p. 597; *Matschie, J. f. O.* 1887, p. 149.

*Adult.* Upper half of the head and back of the neck black, strongly glossed with steel-blue; wings bright chestnut, with dark brown ends to the quills and shaded with that colour, slightly glossed with green on the inner portion; back dark brown, passing on the upper tail-coverts and tail into glossy greenish black: beneath white, shaded with buff; wings chestnut below, except that the smaller coverts are buff like the breast: bill and legs black; iris red. Total length 18 inches, culmen 1·7, wing 7·7, tail 9·7, tarsus 1·9.

*Young.* Differs from the adult in having the wings barred with black, and the upper tail-coverts and tail partially barred with buff. Length 14·3 inches. From the young of *C. senegalensis* it may be best distinguished by the darker and bluer colour of the crown, and the darker brown inner portion of the wing.

*Hab.* N.E. Africa, and East Africa as far as the Zambesi. W. Africa from the Gold Coast to Benguela.

| | | |
|---|---|---|
| *a.* Ad. sk. | Abyssinia. | Seebohm Coll. |
| *b.* Ad. sk. | Abyssinia. | Dr. Rüppell [C.]. |
| *c.* ♂ ad. sk. | Agula, Abyssinia, May 16. | W. T. Blanford, Esq. [C.]. |
| *d.* ♂ ad. sk. | Goongoona, Abyssinia, May 8 (*W. Jesse*). | Tweeddale Coll. |
| *e.* ♂ ad. sk. | Gedem, Shoa, Dec. (*Sir W. Harris*). | India Museum. |
| *f.* Juv. sk. | White Nile. | Sir S. Baker [P.]. |
| *g.* Ad.; *h.* Imm. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *i.* Ad. sk. | Accra (*Haynes*). | Sharpe Coll. |
| *k.* Ad. sk. | Gold Coast (*Aubinn*). | Shelley Coll. |
| *l.* ♂ ad.; *m, n.* ♀ ad. sk. | Shonga, R. Niger, Nov., Dec. (*W. A. F.*). | Forbes Coll. |
| *o.* Ad. sk. | Ogowè R., Gaboon. | M. Bouvier [P.]. |
| *p.* ♂ ad. sk. | Caconda, Benguela (*Anchieta*). | Sharpe Coll. |
| *q, r.* Ad. sk. | Lake Ngami (*Chapman*). | R. B. Sharpe, Esq. [P.]. |
| *s–v.* Ad. sk. | Zambesi (*Dr. Bradshaw*). | Shelley Coll. |
| *w.* Ad. sk. | Mozambique. | Purchased. |
| *x.* Sternum. | Abyssinia. | W. T. Blanford, Esq. [C.]. |

### 26. Centropus senegalensis.

Le Coucou du Sénégal, *Briss. Orn.* iv. p. 120, pl. 8. fig. 1 (1760).
Cuculus senegalensis, *Linn. S. N.* i. p. 169 (1766).
Egyptian Cuckow, *Lath. Gen. Syn.* i. pt. 2, p. 420 (1782).
Cuculus ægyptius, *Gm. S. N.* i. p. 420 (1788).
Le Coucal houhou, mâle, *Levaill. Ois. d'Afr.* v. p. 72, pl. 219 (1806).

Polophilus senegalensis, *Steph. Gen. Zool.* ix. p. 53 (1815).
Polophilus ægyptius, *Steph. t. c.* p. 54.
Corydonyx ægyptius, *Vieill. Encycl. Méth.* p. 1353 (1823).
Corydonyx pyrrholeucus, *Vieill. Gal. Ois.* p. 41 (1825).
Corydonyx senegalensis, *Vieill. t. c.* p. 46.
Centropus senegalensis, *Kuhl & Swinderen, Buff. & D'Aub. Nom. Syst.* p. 6 (1820); *Less. Traité Orn.* p. 137 (1831); *Rüpp. Neue Wirb., Vög.* p. 55 (1835); *Swains. B. W. Afr.* ii. p. 185, pl. 20; *Temm. Tabl. Méth.* p. 52 (1838); *Bp. Consp.* i. p. 106 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Hartl. Orn. W.-Afr.* p. 187 (1857); *Cab. & Heine, Mus. Hein.* iv. p. 105 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 526 (1870); *Heugl. Orn. N.O.-Afr.* pp. 795, clxv (1870); *Gray, Hand-l. B.* ii. p. 212, no. 8946 (1870); *Sharpe, Cat. Afr. B.* p. 14 (1871); *Gurney, ed. Anderss. B. Damara-Ld.* p. 224 (1872); *Shelley & Buckley, Ibis*, 1872, p. 286; *Sharpe, P. Z. S.* 1873, p. 617; *Ussher, Ibis*, 1874, p. 53; *Reichen. J. f. O.* 1875, p. 3; *Sharpe, ed. Layard's B. S. Afr.* pp. 162, 810 (1875); *id. & Bouvier, Bull. Soc. Zool. France*, i. p. 51 (1876); *Reichen. J. f. O.* 1877, p. 15; *Bocage, Orn. Angola*, p. 149 (1877); *Oust. Bull. Soc. Phil.* 7th ser. i. p. 106 (1877); *Shelley, Ibis*, 1883, p. 558; *Büttik. Notes Leyden Mus.* vii. p. 223 (1885), viii. p. 264 (1886); *Hartert, J. f. O.* 1886, p. 597; *Bocage, Jorn. Lisboa*, 1887, p. 2; *Büttik. Notes Leyden Mus.* x. p. 96 (1888).
Centropus burchellii, *Swains. An. in Menag.* p. 321 (1838).

*Adult.* Upper half of the head, back of the neck, rump, upper tail-coverts, and tail brownish black, strongly glossed with green; wings bright chestnut, generally, but not always, passing into duller and darker brown on the inner half of the wings and back, the quills with broad dark ends; beneath white tinged with buff, and occasionally, though rarely, the sides of the body and the under tail-coverts showing faint traces of darker bars: bill and legs black; iris red. Total length 16·5 inches, culmen 1·2, wing 6·6, tail 8·5, tarsus 1·6.

*Immature.* Only differs from the adult by having blackish bars on the mantle and wings, and generally with traces of buff bars on the upper tail-coverts and tail. In this plumage it may be distinguished from *C. natalensis* by the entire absence of any buff shaft-stripes on the upper parts.

*Hab.* Nearly the whole of tropical Africa, extending to the Egyptian Delta.

| | | |
|---|---|---|
| *a.* Ad. st.; *b.* Ad. sk. | Egypt. | J. Bowring, Esq. [P.]. |
| *c, d, e.* ♂ ad. sk. | Egypt, April (*G. E. S.*). | Shelley Coll. |
| *f.* Ad. sk. | Khartoum, Nov. 10 (*P. Knoblecker*). | Sharpe Coll. |
| *g.* Imm. sk. | Senegal. | Seebohm Coll. |
| *h–l.* Ad. sk. | Dakar, Senegal (*L. Laglaize*). | Tweeddale Coll. |
| *m, n.* Ad. et imm. sk. | River Gambia. | Sharpe Coll. |
| *o.* Ad. sk. | Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *p.* Ad. sk. | Cape Palmas. | F. Nicholson, Esq. [P.]. |
| *q.* Imm. sk. | Denkera. | Sharpe Coll. |

| | | |
|---|---|---|
| *r*, *s*, *t*. Ad.; *u*–*x*. Imm. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *y*. Ad. sk. | Abrobonko, Jan. (*G. E. S.*). | Shelley Coll. |
| *z*–*d'*. Ad. sk. | Accra, Feb. (*G. E. S.*) | Shelley Coll. |
| *e'*. Ad. sk. | Gold Coast. | Shelley Coll. |
| *f'*. Ad. sk. | River Niger. | Mrs. Heywood [P.]. |
| *g'*. ♂ ad. sk. | Egga, Niger (*W. A. F.*). | Forbes Coll. |
| *h'*, *i'*. ♀ ad. sk. | Shonga, Niger (*W. A. F.*). | Forbes Coll. |
| *k'*. Ad. sk. | Cape Lopez. | Sharpe Coll. |
| *l'*. ♀ ad. sk. | Landana, Congo, Feb. (*Petit*). | Shelley Coll. |
| *m'*, *n'*. ♂ ♀ imm. sk. | Chinchonxo, Congo, March (*Petit*). | Shelley Coll. |
| *o'*. Imm. sk. | Lake Ngami (*Chapman*). | Sharpe Coll. |
| *p'*–*t'*. Ad. et imm. sk. | Makalaka Country (*Dr. Bradshaw*). | Shelley Coll. |
| *u'*. Ad. sk. | Bamangwato, Oct. (*T. E. Buckley*). | Shelley Coll. |
| *v'*. Ad. sk. | Transvaal (*Ayres*). | Sharpe Coll. |

### 27. Centropus natalensis.

Centropus superciliosus (*nec Hempr. & Ehr.*), *Bianconi, Spec. Zool. Mosambique*, p. 51 (1851); *Layard, B. S. Afr.* p. 246 (1867); *Buckley, Ibis*, 1874, p. 366; *Shelley, Ibis*, 1875, p. 82; *Sharpe, ed. Layard's B. S. Afr.* pp. 163, 810 (pt., 1875); *Ayres, Ibis*, 1884, p. 225.

Centropus natalensis, *Shelley, Ibis*, 1882, p. 246; *Ayres, Ibis*, 1887, p. 52.

*Adults*. Intermediate in plumage between *C. senegalensis* and *C. superciliosus*. The white eyebrow, when present (which is not always the case), varies from a mere spot near the nostril to almost a complete eyebrow as in *C. superciliosus*, but it is always interrupted above the eye by the black of the crown which descends to the upper eyelid; generally, but not always, some of the feathers of the back of the neck and mantle have white shaft-stripes; rump, upper tail-coverts, and basal portion of the tail always narrowly and distinctly barred with buff as in *C. superciliosus*; tail-feathers narrowly tipped with white; sides of the throat generally streaked with black, but never to the same extent as in *C. superciliosus*; sides of the body and the under tail-coverts more or less barred: bill black, sometimes with a portion of it yellow; iris red; legs slate-colour. Total length 14 to 17 inches, culmen 1·25 to 1·50, wing 6·2 to 6·8, tail 7·8 to 9, tarsus 1·6 to 1·8.

One specimen differs from *C. senegalensis* only in having a few white shaft-stripes on the wing-coverts; and the back, upper tail-coverts, and basal third of the tail distinctly barred with buff. Total length 14 inches, culmen 1·2, wing 6·4, tail 8·3, tarsus 1·45. The white ends to the tail have apparently been worn away.

Another adult bird differs from the last in having a broad white eyebrow interrupted by black feathers just above the eye; all the feathers of the back of the neck and many of those of the mantle have white shafts; the broad buff shaft-stripes to the feathers on the sides of the neck are partially edged with black, but not to the

same extent as in *C. superciliosus*: the feathers on the sides of the body and under tail-coverts have dusky bars. Total length 15·1 inches, culmen 1·4, wing 6·7, tail 9, tarsus 1·6.

*Young.* Differs from the adult in having a buff eyebrow: the upper parts of the head with partial rufous shaft-stripes; the back of the neck, upper back, and wings barred with rufous and black; the pale bars on the tail more numerous, and the feathers on the sides of the lower throat with well-marked buff shaft-stripes edged with black.

*Hab.* S.E. Africa, extending north to the Transvaal and the Zambesi.

| | | |
|---|---|---|
| *a.* Imm. sk. | South Africa. | J. Rocke, Esq. [P.]. |
| *b.* Imm. sk. | South Africa. | Seebohm Coll. |
| *c.* Ad. sk. | Grahamstown (*T. C. Atmore*). | Sharpe Coll. |
| *d.* ♂ ad.; *e.* ♀ imm. sk. | East London, Jan., July. | J. C. Rickard, Esq. [P.]. |
| *f, g.* ♂ ad. sk. | Eland's Post, June (*T. C. Atmore*). | Sharpe Coll. |
| *h.* Ad. sk. | Kingwilliamstown (*Trevelyan*). | Shelley Coll. |
| *i, k.* ♂ ♀ ad. sk. | Durban, Natal, Sept. (*Gordge*). | Shelley Coll. (Types of the species.) |
| *l, m, n.* ♀ ad. sk. | Durban, Sept. (*Gordge*). | Seebohm Coll. |
| *o, p.* ♂ ♀ ad. sk. | Pinetown, Feb. (*T. L. Ayres*). | Shelley Coll. |
| *q, r.* Ad.; *s.* Juv. sk. | Natal (*T. Ayres*). | Sharpe Coll. |
| *t.* ♀ ad. sk. | Swaziland, July (*T. E. Buckley*). | Shelley Coll. |
| *u.* ♂ ad. sk. | Transvaal, July (*T. E. Buckley*). | Shelley Coll. |
| *v, w.* Ad. sk. | Pretoria (*Pratt*). | Seebohm Coll. |
| *x.* ♀ ad. sk. | Crocodile River, July (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *y, z.* Ad. sk. | Tete, Zambesi (*Sir J. Kirk*). | Livingstone Exped. |
| *a'.* Ad. sk. | Zambesi (*Dr. Meller*). | Tweeddale Coll. |

### 28. Centropus superciliosus.

Centropus superciliosus, *Hempr. & Ehr. Symb. Phys.* fol. r (1828); *Rüpp. Neue Wirb., Vög.* p. 56, pl. 21. fig. 1 (1835); *Bp. Consp.* i. p. 107 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 681 (1856); *Monteiro, P. Z. S.* 1865, p. 91; *Heugl. Orn. N.O.-Afr.* pp. 797, clxv (1870); *Blanf. Geol. & Zool. Abyss.* p. 315 (1870); *Sharpe, P. Z. S.* 1873, p. 620; *Dresser & Blanf. Ibis*, 1874, p. 336; *Reichen. J. f. O.* 1877, p. 15; *Bocage, Orn. Angola*, p. 150 (1877); *id. Jorn. Lisboa*, vi. p. 66 (1878); *Nicholson, P. Z. S.* 1878, p. 359; *Cab. J. f. O.* 1878, p. 238; *Fischer & Reichen. t. c.* p. 252; *Scl. & Hartl. P. Z. S.* 1881, p. 172; *Shelley, t. c.* p. 595; *Hartl. t. c.* p. 955; *Gurney, Ibis*, 1882, p. 73; *Böhm, J. f. O.* 1883, p. 164; *Schalow, t. c.* p. 346; *Shelley, Ibis*, 1885, p. 400; *Böhm, J. f. O.* 1885, p. 41; *Fischer, t. c.* p. 123; *Bocage, Jorn. Lisboa*, 1886, p. 9; *Reichen. J. f. O.* 1887, p. 58; *Salvad. Ann. Mus. Civ. Gen.* 1888, p. 215.

*Adult.* Forehead, crown, and ear-coverts uniform brown: a broad white eyebrow; back of the neck brown, with broad white shaft-stripes edged with black; back and wings paler brown, passing into bright chestnut on the quills, which have darker brown ends; some of the feathers of the mantle with white shaft-stripes like the neck; remainder of the upper parts glossy greenish black, with numerous narrow buff bars on the rump and upper tail-coverts and a less amount on the basal portion of the tail; the tail-feathers narrowly tipped with white: underparts buffish white, strongly marked on the sides and base of the throat with lanceolate white shaft-stripes narrowly edged with black; sides of the body and under tail-coverts barred with dusky black; under surface of the wings chestnut like upper surface, slightly mottled with buff on the wing-coverts: bill and legs black; iris red. Total length 14·7 inches, culmen 1·15, wing 5·7, tail 8·6, tarsus 1·6.

*Young.* Differs in having the forehead, crown, and nape nearly black with rufous-buff shaft-stripes; a broad eyebrow, cheeks, and ear-coverts rufous-buff; back of the neck, mantle, and wing-coverts equally barred chestnut and black; quills more chestnut but partially barred.

*Hab.* N.E. Africa, extending on the east to the Zambesi and across to Benguela and Angola.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Nubia. | Seebohm Coll. |
| *c*. Ad. sk. | 5th Cataract of the Nile. | F. Galton, Esq. |
| *d*–*g*. Ad. sk. | Gabsa, Bogos-Land (*Esler*). | Sharpe Coll. |
| *h*. ♀ ad. sk. | Kokai, Bogos-Land, July 9 (*W. Jesse*). | Tweeddale Coll. |
| *i*. ♂ ad. sk. | Ain, Lebka River, July 6. | W. T. Blanford, Esq. [C.]. |
| *k*. ♀ ad. sk. | Bejook, Anseba Valley, July 15. | W. T. Blanford, Esq. [C.]. |
| *l*. Ad. sk. | Shoa (*Sir W. Harris*). | India Museum. |
| *m*. ♀ ad.; *n*. ♂ imm. sk. | Socotra, March. | Prof. I. B. Balfour [C.]. |
| *o*. ♂ ad. sk. | Lado, Equatorial Africa, Feb. (*Emin Pasha*). | Shelley Coll. |
| *p*. Ad. sk. | Mombasa. | Rev. A. F. Buxton [P.]. |
| *q*. Ad. sk. | Pangani River (*Sir J. Kirk*). | Shelley Coll. |
| *r*. Ad. sk. | Zanzibar (*Sir J. Kirk*). | Sharpe Coll. |
| *s*. Ad. sk. | Dar-es-Salaam (*Sir J. Kirk*). | Shelley Coll. |
| *t*. ♂ ad. sk. | Landana, Congo (*Dr. Lucan*). | Shelley Coll. |
| *u*, *v*. ♂ ad.; *w*. Juv. sk. | Rio Dande, Loanda, April (*Sala*). | Sharpe Coll. |
| *x*. Ad. sk. | Kattenbella, Benguela, Nov. 30 (*Sala*). | Sharpe Coll. |
| *y*. Ad. sk. | Benguela. | Monteiro Coll. |
| *z*. Sternum. | Abyssinia. | W. T. Blanford, Esq. [C.]. |

### 29. Centropus melanops.

Centropus melanops, *Less. Traité*, p. 137 (1831); *Gray, Gen. B.* ii. p. 455 (1846); *id. Hand-l. B.* ii. p. 214, no. 8980 (1870).

Centropus nigrifrons, *Peale, U. S. Expl. Exped.* 1st ed. p. 137, pl. 38. fig. 1 (1848); *Hartl. Arch. f. Nat.* xviii. p. 137, pl. 38 (1852); *Cass. U. S. Expl. Exped.* 1855, p. 249, *Atlas*, pl. 22 (1855); *Gray, Hand-l. B.* ii. p. 214, no. 8979 (1870).

Nesocentor nigrifrons, *Cab. & Heine, Mus. Hein.* iv. p. 119, note (1862).

Nesocentor melanops, *Cab. & Heine, Mus. Hein.* iv. p. 119, note (1862).

Pyrrhocentor melanops, *Walden, Tr. Z. S.* ix. pp. 164, 330; *Tweeddale, P. Z. S.* 1877, p. 823; *Sharpe, Trans. Linn. Soc.* ser. 2, *Zool.* i. p. 322 (1877); *Tweeddale, P. Z. S.* 1878, pp. 108, 946, 1879, p. 69; *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 656 (1881); *Kütter, J. f. O.* 1883, p. 303.

*Adult.* Head, neck, and fore part of chest buff; forehead, a broad eyebrow, cheeks, and lores black; wings and a narrow band across the upper back bright chestnut; ends of the quills dark brown; remainder of the back, tail, and the under surface of body black glossed with bluish green; under wing-coverts dusky black mottled with rufous buff: "bill black; iris crimson; legs grey" (*Peale*). Total length 17·5 inches, culmen 1·6, wing 6·5, tail 10, tarsus 1·7.

*Hab.* Philippine Islands.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Mouth of Butuan River, May (*A. H. Everett*). | Tweeddale Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Surigao, May (*A. H. Everett*). | Tweeddale Coll. |
| *d*. ♂ ad. sk. | Basilan, May (*A. H. Everett*). | Tweeddale Coll. |
| *e*. ♀ ad. sk. | Nipah Island, July (*A. H. Everett*). | Tweeddale Coll. |
| *f*, *g*. ♂ ad.; *h*, *i*. ♀ ad. sk. | Zamboanga, Mindanao, March (*A. H. Everett*). | Tweeddale Coll. |

### 30. Centropus celebensis.

Centropus celebensis, *Quoy & Gaim. Voy. Astrol., Zool.* i. p. 230, pl. 20 (1830); *Gray, Gen. B.* ii. p. 455 (1846); *Bp. Consp.* i. p. 108; *id. Consp. Vol. Zygod.* p. 5 (1854); *Brügg. Abhandl. nat. Ver. Brem.* v. p. 60 (1876).

Centropus bicolor, *Less. Traité*, p. 137 (1831); *Blyth, J. A. S. Beng.* 1843, p. 946, 1845, p. 20; *Gray, Gen. B.* ii. p. 455 (1846); *Pucher. Rev. et Mag. Zool.* 1852, p. 472; *Gray, P. Z. S.* 1860, p. 359; *id. Hand-l. B.* ii. p. 214, no. 8972 (1870).

Pyrrhocentor bicolor, *Cab. & Heine, Mus. Hein.* iv. p. 117 (1862); *Gray, P. Z. S.* 1869, p. 359; *Salvad. Orn. Papuasia*, i. p. 392 (1880).

Pyrrhocentor celebensis, *Walden, Tr. Z. S.* viii. p. 55 (1872); *Salvad. Ann. Mus. Civ. Gen.* vii. p. 650 (1875); *Lenz, J. f. O.* 1877, p. 372; *Meyer, Ibis*, 1879, p. 70; *Guillemard, P. Z. S.* 1885, p. 551.

*Adult.* Upper half of the head, back of neck, and upper mantle buffish brown, slightly darker on the crown; remainder of the upper parts dark chestnut; throat and chest buff, shading into chestnut on the sides of the chest, abdomen, and under tail-coverts; bill black; legs blackish brown. Total length 20·2 inches, culmen 1·65, wing 6·8, tail 10·8, tarsus 1·85.

*Hab.* Celebes.

| | | |
|---|---|---|
| *a*. ♀ ad. st.; *b*. Ad. sk. | Celebes. | Wallace Coll. |
| *c*, *d*. Ad. sk. | Celebes. | Tweeddale Coll. |
| *e*, *f*, *g*. Ad. sk. | Menado, N. Celebes. | Hume Coll. |
| *h*, *i*, *k*. Ad.; *l*. Imm. sk. | Menado. | Wallace Coll. |
| *m*, *n*, *o*. Ad. sk. | Makassar (*A. R. Wallace*). | Tweeddale Coll. |
| *p*. ♀ ad. st. | Makassar. | Wallace Coll. |

### 31. Centropus andamanensis.

Centropus andamanensis, *Beavan, Ibis*, 1867, p. 321 (*ex Tytler, MSS.*); *Ball, Str. F.* i. p. 63 (1873); *Hume, Nests & Eggs Ind. B.* p. 144 (1873); *id. Str. F.* ii. p. 194 (1874), viii. p. 89 (1879).

Centrococcyx andamanensis, *Wald. Ibis*, 1873, p. 305, pl. 11; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 404 (1890).

*Adult male.* Head, neck, upper mantle, and under surface of the body brownish buff; wings and a narrow band across the upper back very deep chestnut; the tips of the primaries dark brown; remainder of the back and the upper tail-coverts dusky brownish buff; tail purplish black; abdomen and under tail-coverts rather more dusky than the throat; under wing-coverts dusky brownish buff; "iris red; bill, legs, and feet black." Total length 17·4 inches, culmen 1·5, wing 6·7, tail 9·7, tarsus 1·9.

In specimens in worn plumage the head, neck, and underparts are more buff and the tail much browner, especially towards the edges of the feathers, which are often brownish buff.

*Hab.* Andaman Islands.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Great Coco Island, April (*W. Davison*). | Hume Coll. |
| *b*. ♀ ad. sk. | Little Coco Island, March (*W. D.*). | Hume Coll. |
| *c*. ♀ ad. sk. | Port Cornwallis, N. Andamans, April 6. | Hume Coll. |
| *d–i*. ♂ ♀ ad. sk. | S. Andamans, Jan., Feb., May, July (*R. G. W. R.*). | Tweeddale Coll. |
| *k*. ♀ ad.; *l*. ♀ imm. sk. | S. Andamans, July (*R. J. Wimberley*). | Hume Coll. |
| *m*, *n*. ♂ ad.; *o*, *p*, *q*. ♀ ad. sk. | Aberdeen, April, May (*W. Davison*). | Hume Coll. |
| *r*, *s*, *t*. ♂ ad.; *u*, *v*. ♀ ad. sk. | Port Mouat, Dec., Jan., April (*W. Davison*). | Hume Coll. |
| *w*. ♀ ad. sk. | Haddo, Dec. 23 (*W. Davison*). | Hume Coll. |

| | | |
|---|---|---|
| *x–d'*. ♂ ♀ ad. sk. | Port Blair, Aug. (*R. J. Wimberley*). | Hume Coll. |
| *e', f'*. ♂ ♀ ad. sk. | Port Blair, June 17 (*R. J. Wimberley*). | Seebohm Coll. |

### 32. Centropus unirufus.

Pyrrhocentor unirufus, *Cab. & Heine, Mus. Hein.* iv. p. 118, note (1862); *Walden, Trans. Z. S.* viii. p. 56 (1872), ix. p. 164 (1875).
Centropus unirufus, *Gray, Hand-l. B.* ii. p. 214, no. 8973.

*Adult.* Entire plumage deep rufous, slightly darker above than below; the feathers from the forehead to the mantle have darker glossy shafts than those of the throat and fore part of the chest; the quills with broad brown ends; bill green, passing into yellow towards the tip and on the edges; legs olive-brown. Total length 15·7 inches, culmen 1·5, wing 6·3, tail 9, tarsus 1·7.

*Hab.* Philippine Islands.

| | | |
|---|---|---|
| *a*. Ad. sk. | Manila (*Maitland Heriot*). | Tweeddale Coll. |

## Subfamily III. PHŒNICOPHAINÆ.

*Key to the Genera.*

*a*. Tarsus never twice the length of the culmen; bill never entirely black.
  *a'*. Nostrils exposed; with no abnormal feathers on the head.
    *a''*. Bare ophthalmic patch separated from the bill by a band of feathers; tail-feathers with white ends.
      *a'''*. Bill long and slender, much longer than tarsus ..... 19. Saurothera, p. 369.
      *b'''*. Bill shorter and stouter, not longer than tarsus.
        $a^4$. Bill compressed at the sides; culmen strongly arched. Sexes very similar in plumage.
          $a^5$. Bill rather more compressed, and with no green colour on it.
            $a^6$. Larger: bill black with the exception of a large patch of orange on the lower mandible; wing and tail glossy, the former green, the latter blackish ..... 20. Hyetornis, p. 372.

$b^6$. Smaller.
$a^7$. Back, wings, and tail rufous ..... 21. Piaya, p. 373.
$b^7$ Back, wings, and tail glossy greenish blue.. 22. Zanclostomus, p. 380.
$c^7$. General colour isabelline; eyelashes very strongly developed .. 23. Taccocua, p. 381.
$b^5$. Bill rather less compressed and partially green; wings and tail glossy green .... 24. Rhopodytes, p. 384.
$b^4$. Bill rather wide and not compressed at the sides; culmen nearly straight. Sexes dissimilar; wings chestnut; ♂ head grey, ♀ head rufous .. 25. Rhinortha, p. 392.
$b''$. Bare ophthalmic patch joining the bill with no separating band of feathers.
$c''$. Nostrils not pierced through an operculum.
$c^4$. The ophthalmic bare patch extends across the forehead; nostril-slit horizontal, linear and not basal; feathers of the head and neck forked; with white ends to tail-feathers .. 26. Phœnicophaës, p. 395.
$d^4$. The ophthalmic bare patch confined to the sides of the head; feathers of the head and neck not forked; no white on the plumage; with the throat chestnut.
$c^5$. Nostrils placed in a horizontal groove.
$c^6$. Nostril-opening elongated; ophthalmic patch grey; wings and tail purple .. 27. Rhamphococcyx, [p. 396.
$d^6$. Nostril-opening roundish; ophthalmic patch red; wings and part of tail metallic green ..... 28. Rhinococcyx, p. 397.
$d^5$. Nostrils not placed in a horizontal groove.
$e^6$. Nostrils not placed in a groove, and round .... 29. Urococcyx, p. 398.
$f^6$. Nostrils placed in a perpendicular groove..... 30. Dryococcyx, p. 400.
$d''$. Nostrils opening in an oblique slit through a swollen operculum ..... 31. Ceuthmochares, [p. 401.
$b'$. Nostrils covered. With abnormal feathers on the head.
$c''$. With elongated red eyebrow-tufts. 32. Dasylophus, p. 403.
$d''$. With hoary tips to some of the feathers of the head ..... 33. Lepidogrammus, [p. 404.
$b$. Tarsus not less than twice the length of the culmen; bill black ..... 34. Coua, p. 405.

## 19. SAUROTHERA.

Type.
Saurothera, *Vieill. Analyse*, p. 28 (1816)..... S. vetula.

*Range.* Bahamas and Greater Antilles.

*Key to the Species.*

*a.* Primaries bright rufous.
  *a'*. Smaller: wing less than 6 inches, tail less than 9 inches.
    *a''*. Upper throat rufous buff; crown ashy like the back..... *dominicensis*, p. 369.
    *b''*. Upper throat white; crown brown, contrasting with the back..... *vetula*, p. 370.
  *b'*. Larger: wing more than 6 inches, tail more than 9 inches.
    *c''*. Crown and mantle rufous-brown; size larger..... *merlini*, p. 370.
    *d''*. Crown and mantle olive-grey; size smaller. *bahamensis*, p. 371.
*b.* Primaries brown..... *vieilloti*, p. 371.

### 1. Saurothera dominicensis.

Cuculus vetulus (*nec Linn.*), *Less. Man. Orn.* i. p. 121 (1828).
Coccyzus pluvialis (*nec Gm.*), *Temm. Tabl. Méth.* p. 53 (1836).
Saurothera dominicensis, *Lafr. Rev. et Mag. Zool.* 1847, p. 355; *Sallé, P. Z. S.* 1857, p. 234; *Cab. & Heine, Mus. Hein.* iv. p. 90, note (1862); *Bryant, Proc. Bost. Soc. Nat. Hist.* xi. p. 95 (1866); *Gray, Hand-l. B.* ii. p. 208, no. 8897 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *Cory, Bull. Nutt. Orn. Club*, vi. p. 154 (1881); *id. B. Haiti & San Domingo*, p. 98 (1885); *id. List B. W. Ind.* p. 18 (1885); *Tristr. Ibis*, 1884, p. 168; *Cory, Auk*, iii. p. 362 (1886); *id. B. West Indies*, p. 157 (1889).
Coccyzus dominicensis, *Schl. Mus. Pays-Bas*, Cuculi, p. 40 (1864).

*Adult.* Above ashy brown, slightly glossed with olive on the wings and tail; crown and nape slightly shaded with brown; primaries chestnut, with broad ashy-olive ends, a few of the outer secondaries having a portion chestnut; tail-feathers with broad black ends to the centre ones, which band becomes subterminal on the remaining rectrices, these being broadly tipped with white; sides of the head and the underparts rufous buff, with the exception of the lower throat and the front half of the chest, which are ashy white, and the under surface of the quills, which is similar to their upper surface. Bare skin round the eye bright red; bill and legs slaty (*C. B. Cory*). Total length 17 inches, culmen 2, wing 5·4, tail 8·6, tarsus 1·5.

*Hab.* St. Domingo.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | San Domingo. | Purchased. |
| *c*. ♀ ad. sk. | San Domingo, Jan. (*C. B. Cory*). | Sclater Coll. |
| *d*, *e*. ♂ ad. sk. | San Domingo, Nov., Dec. (*C. B. Cory*). | Salvin-Godman Coll. |
| *f*, *g*. Ad. sk. | Haiti. | Baron Maltzam. |

### 2. Saurothera vetula.

Cuculus vetula, *Linn. Syst. Nat.* i. p. 169 (1766).
Saurothera vetula, *Steph. Gen. Zool.* xiv. p. 216 (1826); *Gosse, B. Jamaica*, p. 273 (1847); *id. Ill. B. Jamaica*, pl. 74 (1849); *Bp. Consp. Av.* i. p. 96 (1850); *Cab. & Heine, Mus. Hein.* iv. p. 90 (1862); *Scl. Cat. Am. B.* p. 323 (1862); *Albrecht, J. f. O.* 1862, p. 202; *March, Proc. Acad. Philad.* 1863, p. 283; *Gray, Hand-l. B.* ii. p. 208, no. 8896 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *A. & E. Newton, Handb. Jamaica*, p. 109 (1881); *Cory, List B. W. Ind.* p. 18 (1885); *id. Auk*, iii. p. 363 (1886); *id. B. W. Indies*, p. 157 (1889).
Saurothera jamaicensis, *Lafr. Rev. et Mag. Zool.* 1847, p. 354.
Coccyzus vetulus, *Schl. Mus. Pays-Bas*, Cuculi, p. 39 (1864).

*Adult.* Very similar to *S. dominicensis*, but differing in having the upper half of the head and upper hind neck brown, contrasting strongly with the mantle; cheeks, lower portion of the ear-coverts, chin, and throat white, slightly tinted with grey on the sides of the throat; entire under surface of the body rufous buff; the under tail-coverts occasionally white. Bare skin round the eye very small. Total length 14·7 inches, culmen 2, wing 4·9, tail 8, tarsus 1·25.
*Hab.* Jamaica.

| | | |
|---|---|---|
| *a.* Ad. sk. | Moneague, Jamaica (*O. Salvin*). | Salvin-Godman Coll. |
| *b.* ♂ ad. sk. | Spanish Town, March (*W. T. March*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Jamaica | Seebohm Coll. |
| *d.* Ad. sk. | Jamaica. | Tweeddale Coll. |
| *e, f.* Ad. sk. | Jamaica. | Sclater Coll. |
| *g.* Ad. sk. | Jamaica. | Capt. Hamilton [P.]. |
| *h.* ♀ ad. sk. | Jamaica. | Gosse Coll. |
| *i.* ♀ ad. sk. | Moneague, Feb. | Bryant Coll. |

### 3. Saurothera merlini.

Saurothera merlini, *D'Orb. Hist. Nat. Cuba*, p. 152, pl. 25 (1839); *Lafr. Rev. Zool.* 1847, p. 359; *Bp. Consp.* i. p. 97 (1850); *Gundl. J. f. O.* 1856, p. 104; *id. Journ. Bost. Soc. Nat. Hist.* vi. p. 319 (1857); *Brewer, Proc. Bost. Soc. Nat. Hist.* vii. p. 307 (1860); *Cab. & Heine, Mus. Hein.* iv. p. 91 (1862); *Gray, Hand-l. B.* ii. p. 208, no. 8899 (1870); *Gundl. Rep. Fisico Nat. Cuba*, i. p. 208 (1870); *Scl. & Salv. Nom. Av. Neotr.* p. 107 (1873); *Gundl. J. f. O.* 1874, p. 158; *Cory, List B. W. Ind.* p. 18 (1864); *id. Auk*, iii. p. 363 (1886); *id. B. West Indies*, p. 158 (1889).
Coccyzus merlini, *Schl. Mus. Pays-Bas*, Cuculi, p. 40 (1864).
Saurothera gigantea, *Lafr. MS.*
Saurothera havanensis, *Württ. MS.*

*Adult.* Above rufous, shaded with brown on the crown, back, and mantle, and with a more olive gloss on the secondaries and tail-feathers, the latter with white ends and rather broad subterminal black bars to all but the centre ones; primaries bright rufous with olive-brown ends; sides of the head slightly greyer than the crown;

throat brownish white, palest on the chin and centre; lower chest, abdomen, and under tail-coverts golden chestnut; under wing-coverts rufous buff; under surface of the quills bright rufous, with brown ends to the feathers. Total length 22 inches, culmen 2·2, wing 7·3, tail 13, tarsus 1·8.

*Hab.* Cuba.

| | | |
|---|---|---|
| *a.* Ad. st. | Cuba. | Edward Wilson, Esq. [P.]. |
| *b.* Ad. sk. | Cuba. | Salvin-Godman Coll |
| *c.* Ad. sk. | San Cristoval (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *d, e.* Ad. sk. | Cuba. | Sclater Coll. |

### 4. Saurothera bahamensis.

Saurothera vetula (*nec Linn.*), *Bryant, Proc. Bost. Soc. Nat. Hist.* vii. p. 106 (1859).

Saurothera bahamensis, *Bryant, Proc. Bost. Soc. Nat. Hist.* ix. p. 280 (1864); *Cory, B. Bahama Is.* p. 116, cum tab. (1880); *id. List B. W. Ind.* i. p. 18 (1885); *id. Auk*, iii. p. 364 (1886); *id. B. W. Indies*, p. 159 (1889).

"Above pale olive, showing slightly greenish reflections; throat and breast dull greenish white, belly and crissum tawny; primaries mostly rufous; tail-feathers, except the two centre ones, tipped with pale brownish white; legs slate-blue; soles of the feet yellow; eyelids vermilion-red; upper mandible brownish, shading into slate-colour at the base; iris brown. Total length 18 inches, wing 6·25, tail 9·5, tarsus 1·8." (*C. B. Cory.*)

*Hab.* Bahama Islands.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Bahamas (*Governor Blake*). | Sclater Coll. |

### 5. Saurothera vieilloti.

Saurothera vetula (*nec Linn.*), *Vieill. N. Dict.* xxxii. p. 348; *id. Gal. Ois.* i. p. 25, pl. 38 (1825); *Less. Man. Orn.* p. 121 (1828); *id. Traité*, p. 144 (1831); *Lafr. Rev. et Mag. Zool.* 1847, p. 357.

Saurothera vieilloti, *Bp. Consp.* i. p. 97 (1850); *id. P. Z. S.* 1857, p. 234; *A. & E. Newton, Ibis*, 1859, p. 378; *Scl. Cat. Amer. B.* p. 324 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 91, note (1862); *Taylor, Ibis*, 1864, p. 170; *Sundev. Œfv. K. Vet.-Ak. Förh.* 1869, p. 599; *Gray, Hand-l. B.* ii. p. 208, no. 8898 (1870); *Scl. & Salv. Nom. Av. Neotr.* p. 107 (1873); *Gundl. An. Soc. Esp. Hist. Nat.* vii. p. 230 (1878); *Cory, Bull. Nutt. Orn. Club*, vi. p. 155 (1881); *Cory, List B. W. Ind.* i. p. 18 (1885); *id. Auk*, iii. p. 363 (1886); *id. B. W. Indies*, p. 158 (1889).

*Adult.* Entire upper parts nearly uniform brown, all but the two centre tail-feathers having white ends and a subterminal black band; throat and fore part of chest brownish white; remainder of the under surface of the body and the under tail-coverts golden chestnut; under wing-coverts and basal portion only of the inner

margins of the quills rufous buff. Total length 17·4 inches, culmen 1·7, wing 5·4, tail 10·3, tarsus 1·2.

*Hab.* Islands of Porto Rico and St. Thomas.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | Porto Rico (*C. B. Cory*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | Porto Rico. | Bryant Coll. |
| *e*. Ad. sk. | Porto Rico (*Dr. Bryant*). | Sclater Coll. |
| *f*. Ad. sk. | St. Thomas. | Purchased. |
| *g*. Ad. sk. | Bieque Island (*Riise*). | Sclater Coll. |

## 20. HYETORNIS.

| | Type. |
|---|---|
| Hyetornis, *Scl. Cat. Am. Birds*, p. 321 (1862) ..... | H. pluvialis. |
| Hyetomantis, *Cab. J. f. O.* 1862, p. 203, note ..... | H. pluvialis. |

*Range.* Confined to Jamaica.

### 9. Hyetornis pluvialis.

Cuculus pluvialis, *Gm. Syst. Nat.* i. p. 411 (1788); *Wald. Ibis*, 1869, p. 336.

Coccyzus jamaicensis, *Hartl. Verz. Mus. Brem., Nachtr.* p. 16.

Piaya pluvialis, *Gray, Gen. B.* ii. p. 457 (1846); *Gosse, B. Jamaica*, p. 277 (1847); *Des Murs, Iconogr. Orn.* texte to pl. 65 (1848); *Gosse, Ill. B. Jamaica*, pl. 9 (1849); *Bp. Consp.* i. p. 111 (1850); *Scl. P. Z. S.* 1861, p. 79; *Albrecht, J. f. O* 1862, p. 203; *March, Proc. Ac. Philad.* 1863, p. 283; *Pelz. Ibis*, 1873, p. 33.

Piaya cinnamomeiventris, *Lafr. Rev. Zool.* 1846, p. 321, 1847, p. 80; *Des Murs, Iconogr. Orn.* pl. 65 (1848).

Ptiloleptis pluvialis, *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Hyetornis pluvialis, *Scl. Cat. Amer. B.* p. 321 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 80 (1862); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *A. & E. Newton, List B. Jamaica*, p. 109 (1881); *Cory, List B. W. Ind.* i. p. 19 (1885); *id. Auk*, iii. p. 336 (1886); *id. B. W. Indies*, p. 161 (1889).

Hyetomantis pluvialis, *Cab. J. f. O.* 1862, p. 203 note.

Coccyzus pluvialis, *Schl. Mus. Pays-Bas*, Cuculi, p. 39 (1864).

Hyetornis pluvianus, *Gray, Hand-l. B.* ii. p. 212, no. 8939 (1870).

*Adult.* Upper half of the head and back of the neck deep slaty grey; mantle and back olive-brown, with a strong olive gloss on the wings and upper tail-coverts; tail purplish black, with white ends to all of the feathers; cheeks, ear-coverts, and throat pale ashy, passing into white towards the chin; remainder of under surface, under wing and tail-coverts deep chestnut; under surface of the quills uniform dusky olive: "bill black, genys pale grey; iris hazel; feet bluish grey" (*P. H. Gosse*). Total length 17·9 inches, culmen 1·7, wing 7·2, tail 11·7, tarsus 1·5.

*Hab.* Jamaica.

| | | |
|---|---|---|
| *a*, *b*. Ad. st. | Jamaica. | J. Gould, Esq. [P.]. |
| *c*. Ad. sk. | Jamaica. | Salvin-Godman Coll. |
| *d*–*g*. Ad. sk. | Jamaica. | Seebohm Coll. |
| *h*, *i*. Ad. sk. | Jamaica. | Sclater Coll. |
| *k*. ♂ Ad. sk. | Moneague, Jamaica, Feb. | Bryant Coll. |
| *l*. Sternum. | Jamaica. | Gosse Coll. |

## 21. PIAYA.

| | Type. |
|---|---|
| Piaya, *Less. Traité Orn.* p. 139 (1831) | P. cayana. |
| Coccycua, *Less. Traité Orn.* p. 142 (1831) | P. minuta. |
| Pyrrhococcyx, *Cab. in Schomb. Reis.* iii. (1848) p. 713 | P. cayana. |
| Coccyzusa, *Cab. & Heine, Mus. Hein.* Th. iv. p. 89, note | P. minuta. |

*Range.* The whole of Central America, and South America as far as Bolivia and the Argentine Republic.

*Key to the Species.*

*a*. Larger; throat pink, chest pearl-grey ..... *cayana*, p. 373.
*b*. Smaller; throat chestnut; breast blackish with no pearl-grey.
*a'*. Bill red; crown grey ..... *melanogastra*, p. 377.
*b'*. Bill yellow; crown deep chestnut like the back ..... *minuta*, p. 378.

### 1. Piaya cayana.

Cuculus cayanus, *Linn. Syst. Nat.* i. p. 170 (1766); *Wald. Ibis*, 1869, p. 335.
Cuculus ridibundus, *Gm. Syst. Nat.* i. p. 414 (1788); *Wald. Ibis*, 1869, p. 336.
Tingaru, *Azara, Apunt. Hist. Nat. Pax.* (1) ii. p. 265 (1805); *Hartl. Syst. Ind. Azara*, p. 17 (1847).
Cuculus rubicundus, *Steph. Gen. Zool.* ix. p. 109 (1815).
Coccyzus macrocercus, *Vieill. Nouv. Dict.* viii. p. 275 (1817); *id. Enc. Méth.* iii. p. 1347 (1823).
Coccyzus ridibundus, *Vieill. Nouv. Dict.* viii. p. 277 (1817); *id. Enc. Méth.* iii. p. 1348 (1823).
Cuculus mexicanus, *Swains. Syn. B. Mex., Phil. Mag.* i. p. 440 (1827).
Coccyzus cayanus, *Wagl. Isis*, 1831, p. 524; *Neuwied, Beitr. Naturg. Bras.* iv. p. 329 (1832); *Bp. P. Z. S.* 1837, p. 115; *Tsch. Faun. Per., Orn.* pp. 40, 255 (1845); *Burm. Thier. Bras.* ii. p. 265 (1855); *Gray, Hand-l. B.* ii. p. 211, no. 8925 (1870).
Piaya cayana, *Less. Traité*, p. 140 (1831); *Cass. Proc. Ac. Philad.* iv. p. 91 (1850); *Scl. P. Z. S.* 1854, p. 115; *Des Murs in Cast. Exp. Am. Mér., Ois.* p. 17 (1855); *Scl. P. Z. S.* 1860, p. 285; *id. Cat. Amer. B.* p. 321 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 58 (1864); *Taylor, Ibis*, 1864, p. 93; *Léotaud, Ois. Trinidad*, p. 346 (1866); *Scl. & Salv. P. Z. S.* 1867, p. 585; *Pelz. Orn. Bras.* p. 272 (1871); *Hamilton, Ibis*, 1871, p. 307; *Wyatt, t. c.* p. 379; *Layard, Ibis*, 1873, p. 393; *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *id. P. Z. S.* 1879, pp. 537, 633; *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 162 (1886); *Salv. Ibis*, 1889, p. 372; *Scl. & Hudson, Argent. Orn.* ii. p. 36 (1889).
Coccyzus cayanensis, *Swains. Class. B.* ii. p. 323 (1837).
Piaya ridibunda, *Gray, Gen. B.* ii. p. 457 (1846).
Pyrrhococcyx cayanus, *Cab. in Schomb. Reis. Brit. Guiana*, iii. p. 713 (1848); *Cab. & Heine, Mus. Hein.* iv. p. 86, note (1862); *Cab. J. f. O.* 1862, p. 169.
Piaya cayanensis, *Gambel, Journ. Ac. Philad.* 1849, p. 215.
Piaya macroura, *Gambel, t. c.* p. 215; *Scl. P. Z. S.* 1860, p. 285.
Piaya circe, *Bp. Consp.* i. p. 110 (1850); *Scl. Cat. Amer. B.* p. 321 (1862).

Piaya mehleri, *Bp. Consp.* i. p. 110 (1850); *Scl. P. Z. S.* 1855, p. 163, 1858, pp. 75, 460, 1859, p. 146, 1860, pp. 95, 285; *id. Cat. Amer. B.* p. 322 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 57 (1864); *Scl. P. Z. S.* 1864, p. 177; *Salv. P. Z. S.* 1867, p. 156; *Scl. & Salv. t. c.* pp. 280, 752, 758; *Salv. P. Z. S.* 1870, pp. 211, 837; *id. Ibis*, 1872, p. 323; *Scl. & Salv. P. Z. S.* 1873, p. 296; *Boucard, P. Z. S.* 1878, p. 48.

Piaya viridirostris, *Württ. MS.*; *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Ptilopterus ridibundus, *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Piaya mexicanus, *Scl. P. Z. S.* 1856, p. 308, 1858, p. 359, 1859, p. 388; *id. & Salv. Ibis*, 1859, p. 133; *Scl. P. Z. S.* 1860, p. 285; *id. Cat. Amer. B.* p. 322 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 5 (1864); *Salv. Ibis*, 1866, p. 204; *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 162 (1886).

Piaya thermophila, *Scl. P. Z. S.* 1859, p. 368; *id. & Salv. Ibis*, 1860, p. 43; *Taylor, t. c.* p. 118.

Piaya nigricrissa, *Scl. P. Z. S.* 1860, pp. 285, 297; *id. Cat. Amer. B.* p. 322 (1862); *id. & Salv. P. Z. S.* 1864, p. 366, 1866, p. 195; *Lawrence, Ann. Lyc. N. York*, viii. p. 177 (1866); *Tacz. P. Z. S.* 1874, p. 548, 1877, p. 328, 1879, p. 240.

Pyrrhococcyx mehleri, *Cab. J. f. O.* 1862, p. 167; *id. & Heine, Mus. Hein.* iv. p. 83 (1862).

Pyrrhococcyx macrurus, *Cab. J. f. O.* 1862, p. 168; *id. & Heine, Mus. Hein.* iv. p. 86 (1862).

Pyrrhococcyx nigricrissa, *Cab. J. f. O.* 1862, p. 169; *id. & Heine, Mus. Hein.* iv. p. 85 (1862).

Pyrrhococcyx mexicanus, *Cab. J. f. O.* 1862, p. 170; *id. & Heine, Mus. Hein.* iv. p. 82 (1862); *Finsch, Abhandl. nat. Ver. Brem.* 1870, p. 356.

Pyrrhococcyx columbinus, *Cab. J. f. O.* 1862, p. 173; *id. & Heine, Mus. Hein.* iv. p. 82, note (1862).

Pyrrhococcyx mesurus, *Cab. & Heine, Mus. Hein.* iv. p. 83, note (1862).

Pyrrhococcyx pallescens, *Cab. & Heine, t. c.* p. 86.

Cuculus cinnamomeus, *Licht. MS. in Mus. Berol., fide Cab. & Heine, Mus. Hein.* iv. p. 82 (1862).

Pyrrhococcyx guianensis, *Cab. & Heine, Mus. Hein.* iv. p. 85 (1862).

Pyrrhococcyx circe, *Finsch, P. Z. S.* 1870, p. 587.

Coccyzus macrourus, *Gray, Hand-l. B.* ii. p. 211, no. 8926 (1870).

Coccyzus mexicanus, *Gray, t. c.* p. 211, no. 8930.

Coccyzus pallescens, *Gray, t. c.* p. 211, no. 8931.

Coccyzus guianensis, *Gray, t. c.* p. 211, no. 8932.

Coccyzus mesurus, *Gray, t. c.* p. 211, no. 8933.

Coccyzus columbinus, *Gray, t. c.* p. 211, no. 8934.

Piaya cayana mehleri, *Nutting, Proc. U.S. Nat. Mus.* v. p. 401 (1882), vi. p. 376 (1883), vii. p. 388 (1884).

Piaya cayana nigricrissa, *Tacz. Orn. Pérou*, iii. p. 186 (1886).

*Adult.* Above dark rufous, with a violet gloss on the wings and tail, slightly paler and browner on the crown, the quills passing into dark brown at the ends; all the tail-feathers with white ends and subterminal black bars; sides of the head pinker than the crown: cheeks, ear-coverts, and entire throat pink; chest pearl-grey, passing into leaden grey on the thighs and into dusky blackish on the abdomen and under tail-coverts; under surface of the tail

black, with white ends; under wing-coverts pearl-grey; quills rufous, paler on the basal portions of the inner webs and tipped with brown: "iris bright crimson; bare patch round the eye red on the upper half, greyer on the lower half; bill yellowish green, greener at the base; legs leaden grey" (*Taczanowski*). Total length 19·4 inches, culmen 1·1, wing 6, tail 13·1, tarsus 1·4.

The dark portion of the tail underneath varies from black to chestnut.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. Ad. st. | Mexico. | Purchased. |
| *b*. Ad. sk. | Mexico. | Tweeddale Coll. |
| *c, d*. ♂ ♀ ad. sk. | Mazatlan, W. Mexico, Dec. (*A. Forrer*). | Salvin-Godman Coll. |
| *e*. Ad. sk. | Putla. | Seebohm Coll. |
| *f*. ♂ ad. sk. | La Concepcion (*Boucard*). | Seebohm Coll. |
| *g*. ♂ ad. sk. | Bolaños, Jalisco, Feb. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *h, i*. ♂ ad. sk. | Hac. S. Marcos, Zapotlan, Jalisco, May (*W. Lloyd*). | Salvin-Godman Coll. |
| *k, l*. ♂ ad. sk. | San Blas, Tepic, April, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *m*. ♂ ad. sk. | Zapotlan, Jalisco, Dec. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *n, o*. ♂ ad. sk. | Colima, Dec., Jan. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *p*. Ad. sk. | Acapulco, Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *q*. Ad. sk. | Acapulco, March (*A. H. Markham*). | Salvin-Godman Coll. |
| *r*. ♀ ad. sk. | Xantipa, Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *s*. ♀ ad. sk. | Chietla, Canton de Chiantla, Dec. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *t, u*. ♂ ad. sk. | Juchatengo, Oaxaca, April (*M. Truxillo*). | Salvin-Godman Coll. |
| *v, w*. Ad. sk. | Oaxaca (*Fenochio*). | Sclater Coll. |
| *x–b'*. ♂ ad.: *c', d', e'*. ♀ ad. sk. | Tampico, Feb., March (*W. B. Richardson*). | Salvin-Godman Coll. |
| *f'*. Ad. sk. | Tamaulipas (*W. B. Richardson*). | Salvin-Godman Coll. |
| *g'*. ♀ ad. sk. | Valles, San Luis Potosi, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *h'*. ♂ ad. sk. | Misantla, March (*F. D. G.*). | Salvin-Godman Coll. |
| *i'*. ♂ ad.; *k', l'*. ♀ ad. sk. | Misantla, Dec. (*M. Truxillo*). | Salvin-Godman Coll. |
| *m'*. ♀ ad. sk. | Cofre de Perote, July (*M. Truxillo*). | Salvin-Godman Coll. |
| *n', o'*. ♂ ad. sk. | Coatepec (*M. Truxillo & Ferrari-Perez*). | Salvin-Godman Coll. |
| *p'*. ♂ ad. sk. | S. Lorenzo, Canton de Cordova, Dec. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *q'*. ♀ ad. sk. | Playa Vicente, Dec. (*M. Truxillo*). | Salvin-Godman Coll. |
| *r', s'*. Ad. sk. | Jalapa (*F. D. G. & de Oca*). | Salvin-Godman Coll. |
| *t'*. Ad. sk. | Jalapa (*de Oca*). | Sclater Coll. |

| | | |
|---|---|---|
| *u'*, *v'*. ♂ ad.; *w'*. ♀ ad. sk. | Orizaba, Dec. (*F. D. G. & Ferrari-Perez*). | Salvin-Godman Coll. |
| *x'*, *y'*. Ad. sk. | Atoyac, May (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *z'*, *a''*. Ad. sk. | Teapa, Feb. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *b''*. ♀ ad. sk. | Tonala, Dec. (*F. Sumichrast*). | Salvin-Godman Coll. |
| *c''*. ♂ ad. sk. | Tabi, Yucatan, Feb. (*F. D. G.*). | Salvin-Godman Coll. |
| *d''*, *e''*. Ad. sk. | Peto, Yucatan, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *f''*. Ad. sk. | Buczotz, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *g''*. Ad. sk. | Merida, March (*G. F. Gaumer*). | Sclater Coll. |
| *h''*. Ad. sk. | Temax, May (*G. F. Gaumer*). | Sclater Coll. |
| *i''*. ♂ ad. sk. | Izalam, Feb. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *k''*. Ad. sk. | Northern Yucatan (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *l''–p''*. Ad. sk. | Mugeres Island, Dec. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *q''–t''*. Ad. sk. | Holbox Island, Dec. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *u''*. Ad. sk. | Meco Island, Nov. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *v''*. ♂ ad.; *w''*, *x''*, *y''*. ♀ ad. sk. | Western District, British Honduras (*F. Blancaneaux*). | Salvin-Godman Coll. |
| *z''*. Ad. sk. | Belize, British Honduras (*F. Blancaneaux*). | Salvin-Godman Coll. |
| *a*$^3$–*e*$^3$. Ad. sk. | Guatemala. | Gould Coll. |
| *f*$^3$. Ad. sk. | Retalhuleu (*O. S.*). | Salvin-Godman Coll. |
| *g*$^3$, *h*$^3$. Ad. sk. | Dueñas (*O. S.*). | Tweeddale Coll. |
| *i*$^3$. ♂ ad. sk. | Izabal, June (*O. S.*). | Salvin-Godman Coll. |
| *k*$^3$. Ad. sk. | Coban (*O. S.*). | Salvin-Godman Coll. |
| *l*$^3$. Ad. sk. | Cajabon (*O. S.*). | Salvin-Godman Coll. |
| *m*$^3$. Ad. sk. | Chisec (*O. S.*). | Salvin-Godman Coll. |
| *n*$^3$. Ad. sk. | San Gerónimo (*O. S.*). | Salvin-Godman Coll. |
| *o*$^3$. Ad. sk. | San Pedro, Honduras (*G. M. Whitely*). | Salvin-Godman Coll. |
| *p*$^3$. Ad. sk. | Chontales, Nicaragua (*T. Belt*). | Salvin-Godman Coll. |
| *q*$^3$. ♀ ad. sk. | Angostura, Costa Rica, March (*J. Carmiol*). | Salvin-Godman Coll. |
| *r*$^3$. Ad. sk. | Bebedero, Nicoya, Costa Rica, March (*E. Arcé*). | Salvin-Godman Coll. |
| *s*$^3$. Ad. sk. | Tucurriqui, Costa Rica (*E. Arcé*). | Salvin-Godman Coll. |
| *t*$^3$. ♀ ad. sk. | Castillo, Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *u*$^3$. Ad. sk. | Chepo, Panama. | Salvin-Godman Coll. |
| *v*$^3$. Ad. sk. | Paraiso Station, Panama (*A. Hughes*). | Salvin-Godman Coll. |
| *w*$^3$, *x*$^3$. Ad. sk. | Panama (*J. McLeannan*). | Sclater Coll. |
| *y*$^3$. ♂ ad. sk. | Minca, Santa Marta, U.S. Colombia, Jan. (2000 ft.; *F. A. A. Simons*). | Salvin-Godman Coll. |
| *z*$^3$. Ad. sk. | Valle Dupar, Santa Marta, Feb. (700 ft.; *F. A. A. Simons*). | Salvin-Godman Coll. |
| *a*$^4$. Ad. sk. | Santa Marta. | Tweeddale Coll. |
| *b*$^4$, *c*$^4$. ♀ ad. sk. | Envigado, Antioquia (*T. K. Salmon*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| $d^1$, $e^1$. Ad. sk. | Medellin (*T. K. Salmon*). | Seebohm Coll. |
| $f^1$. ♀ ad. sk. | Colombia. | Purchased. |
| $g^1$, $h^1$, $i^1$. Ad. sk. | Bogota. | Salvin-Godman Coll. |
| $k^1$, $l^1$. Ad. sk. | Ecuador. | Tweeddale Coll. |
| $m^1$, $n^1$, $o^1$. Ad. sk. | Quito, Ecuador. | Salvin-Godman Coll. |
| $p^1$. Ad. sk. | Pallatanga, Ecuador (*L. Fraser*). | Sclater Coll. |
| $q^1$. Ad. sk. | Esmeraldas, Ecuador (*L. Fraser*). | Sclater Coll. |
| $r^1$, $s^1$. Ad. sk. | Santa Rita, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| $t^1$, $u^1$. Ad. sk. | Venezuela. | Seebohm Coll. |
| $v^1$. Ad. st. | British Guiana. | Royal Geographical Society [P.]. |
| $w^1$, $x^1$. ♂ ♀ ad. sk. | Bartica Grove, British Guiana, Oct. (*H. Whitely*). | Salvin-Godman Coll. |
| $y^1$. ♂ ad. sk. | Camacusa, July (*H. Whitely*). | Salvin-Godman Coll. |
| $z^1$. Ad. sk. | Maroni River, Surinam (*Kappler*). | Salvin-Godman Coll. |
| $a^5$–$d^5$. Ad. sk. | Cayenne. | Salvin-Godman Coll. |
| $e^5$. ♂ ad. sk. | Para, May (*A. R. Wallace*). | Salvin-Godman Coll. |
| $f^5$, $g^5$. ♂ ♀ ad. sk. | Para, Aug. (*E. L. Layard*). | Tweeddale Coll. |
| $h^5$. Ad. sk. | Rio Negro. | Seebohm Coll. |
| $i^5$. Ad. sk. | Eastern Peru (*Tschudi*). | Sclater Coll. |
| $k^5$. ♂ ad. sk. | Pebas, June (*J. Hauxwell*). | Salvin-Godman Coll. |
| $l^5$. ♂ ad. sk. | Huiro, July (*H. Whitely*). | Seebohm Coll. |
| $m^5$–$q^5$. ♂ ♀ ad. sk. | Yquitos, April, Aug., Sept. (*H. Whitely*). | Seebohm Coll. |
| $r^5$. Ad. sk. | Chanchamayo, Aug. (*H. Whitely*). | Seebohm Coll. |
| $s^5$, $t^5$. Ad. sk. | Juanani, Bolivia (*C. Buckley*). | Salvin-Godman Coll. |
| $u^5$, $v^5$, $w^5$. Ad. sk. | Brazil. | Seebohm Coll. |
| $x^5$–$d^6$. Ad. sk. | Chapada, Matto Grosso, Oct., Nov., Feb., March, June (*H. H. Smith*). | Salvin-Godman Coll. |
| $e^6$, $f^6$. Ad. sk. | Pernambuco (*W. A. Forbes*). | Salvin-Godman Coll. |
| $g^6$, $h^6$. Ad. sk. | Bahia (*Dr. Wucherer*). | Salvin-Godman Coll. |
| $i^6$. Ad. sk. | Novo Fribourgo (*J. Youds*). | Salvin-Godman Coll. |
| $k^6$. ♀ ad. sk. | Rio Claro (*Joyner*). | Salvin-Godman Coll. |
| $l^6$, $m^6$. ♂ ♀ ad. sk. | Sao Paulo (*Joyner*). | Salvin-Godman Coll. |
| $n^6$. Ad. sk. | Rio Grande do Sul. | Seebohm Coll. |
| $o^6$, $p^6$, $q^6$. Ad. sk. | South Brazil (*J. Natterer*). | Sclater Coll. |
| $r^6$. ♂ ad. sk. | Uruguay, Aug. | Alan Peel, Esq. [P.]. |
| $s^6$. ♂ ad. sk. | Tucuman, Argentine Republic, June. | H. Durnford, Esq. [C.]. |

### 2. Piaya melanogastra.

Cuculus cayanus, var. γ, *Gm. Syst. Nat.* i. p. 147 (1788); *Wald. Ibis*, 1869, p. 337.

Cuculus melanogaster, *Vieill. Nouv. Dict.* viii. p. 236; *id. Enc. Méth.* p. 1337 (1823).

Macropus caixana, *Spix, Av. Bras.* i. p. 54, pl. 43. fig. 1 (1824).

Piaya brachyptera, *Less. Traité*, p. 140 (1831); *Wald. Ibis*, 1869, p. 334.

Melias corallirhynchus, *Less. Rev. Zool.* 1840, p. 1.

Phœnicophaus corallirhynchus, *Gray, Gen. B.* ii. p. 759 (1845).
Pyrrhococcyx brachypterus, *Cab. in Schomb. Reise Guiana*, iii. p. 714 (1848).
Coccygus brachypterus, *Burm. Syst. Uebers. Th. Bras.* ii. p. 266 (1856).
Cuculus amaurocephalus, *Licht. in Mus. Berol., fide Cab. & Heine.*
Pyrrhococcyx melanogaster, *Cab. & Heine, Mus. Hein.* iv. p. 88 (1862).
Piaya melanogastra, *Schl. Mus. Pays-Bas*, Cuculi, p. 59 (1864); *Scl. & Salv. P. Z. S.* 1867, pp. 752, 758; *Pelz. Orn. Bras.* p. 273 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873); *id. P. Z. S.* 1873, p. 296; *Tacz. Orn. Pérou*, iii. p. 188 (1886).
Coccyzus melanogaster, *Gray, Hand-l. B.* ii. p. 211, no. 8927 (1870).

*Adult.* Above chestnut, with the forehead and crown grey; quills with dark-brown ends; all the tail-feathers with white ends and broad black subterminal bars; sides of the head grey like the crown; ear-coverts and the entire throat, neck, and front of the chest rufous; under wing-coverts slaty grey; quills chestnut, with brown ends: "bill red; irides crimson; legs and claws slate-colour" (*H. Whitely*). Total length 15·3 inches, culmen 1·3, wing 5·4, tail 9·3, tarsus 1·4.

*Hab.* Guiana, Amazonia to Eastern Ecuador and Northern Brazil.

| | | |
|---|---|---|
| *a.* Ad. sk. | South America. | Old Coll. |
| *b, c.* Ad. sk. | British Guiana. | Seebohm Coll. |
| *d, e.* ♂ ♀ ad. sk. | Bartica Grove, British Guiana, Sept., Nov. (*H. Whitely*). | Salvin-Godman Coll. |
| *f.* Ad. sk. | Cayenne. | Zoological Society. |
| *g.* Ad. sk. | River Amazons. | Seebohm Coll. |
| *h.* Ad. sk. | Rio Negro. | Seebohm Coll. |
| *i, k, l.* Ad. sk. | Chamicuros, Peruvian Amazons, May, Sept. | Edward Bartlett, Esq. [C.]. |
| *m.* Ad. sk. | Chyavetas, E. Peru, July (*E. Bartlett*). | Salvin-Godman Coll. |
| *n, o.* Ad. sk. | Sarayacu, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *p.* ♀ ad. sk. | Borba, Brazil, Feb. (*J. Natterer*). | Salvin-Godman Coll. |
| *q.* ♂ ad. sk. | Borba, Brazil, May (*J. Natterer*). | Sclater Coll. |

### 3. **Piaya minuta.**

Cuculus cayanus, var. *β*, *Linn. Syst. Nat.* i. p. 170 (1766); *Wald. Ibis*, 1869, p. 335.
? Cuculus rutilus, *Ill. Abhandl. Berl. Ak. Wissensch.* 1812, p. 224.
Coccyzus minutus, *Vieill. Nouv. Dict.* viii. p. 275 (1817); *id. Enc. Méth.* p. 1346 (1823); *Burm. Thier. Bras.* ii. p. 267 (1855).
Coccyzus rutilus, *Vieill. Nouv. Dict.* viii. p. 277 (1817); *id. Enc. Méth.* p. 1348 (1823); *Gray, Hand-l. B.* ii. p. 212, no. 8936 (1870).
Macropus caixana, pt., *Spix, Av. Bras.* i. p. 54, pl. 43. fig. 2, ♀ (1824).
Coccyzus caixana (*nec Spix*), *Steph. Gen. Zool.* xiv. p. 207 (1826).
Cuculus monachus, *Cuv. Mus. Paris, fide Less.*
Coccycua monachus, *Less. Traité*, p. 142 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 68.
Piaya minuta, *Gray, Gen. B.* ii. p. 457 (1846); *Scl. P. Z. S.* 1860, p. 297; *id. Cat. Amer. B.* p. 322 (1862); *Léotaud, Ois. Trinidad*, p. 348 (1866); *Scl. & Salv. P. Z. S.* 1866, p. 195, 1867, p. 585, 1870, p. 782, 1873, p. 296, 1879, p. 537; *id. Nomencl. Av. Neotr.*

p. 108 (1873); *Layard, Ibis*, 1873, p. 313; *Tacz. Orn. Pérou*, iii. p. 187 (1886).

Piaya rutila, *Gray, Gen. B.* ii. p. 457 (1846); *Scl. P. Z. S.* 1860, pp. 285, 297; *Cab. & Heine, Mus. Hein.* iv. p. 88 (1862); *Pelz. Orn. Bras.* p. 273 (1871); *Tacz. P. Z. S.* 1877, p. 333.

Pyrrhococcyx minutus, *Cab. in Schomb. Reise Guiana*, iii. p. 714 (1848).

Coccyzæa monachus, "*Less.*" *Burm. Thier. Bras.* ii. p. 267 (1855), note.

Pyrrhococcyx rutilus, *Cab. & Heine, Mus. Hein.* iv. p. 88 (1862); *Heine, J. f. O.* 1863, p. 356; *Finsch, P. Z. S.* 1870, p. 587.

Coccyzusa rutila, *Cab. & Heine, Mus. Hein.* Th. iv. p. 89 (1862) note.

Coccyzusa gracilis, *Heine, J. f. O.* 1863, p. 356.

Piaya gracilis, *Scl. & Salv. P. Z. S.* 1864, p. 366.

Coccyzus gracilis, *Gray, Hand-l. B.* ii. p. 212, no. 8937 (1870).

*Adult male.* Above uniform deep chestnut, shading into dark brown on the ends of the primaries, the tail-feathers darkening almost into black next to their moderately broad white ends; sides of the head and throat chestnut like the crown: chest grey, washed with pale rufous; abdomen and under tail-coverts darker and more dusky; under surface of the wings chestnut, paler on the coverts, and with dark brown ends to the quills; bill yellow, shaded with scarlet on the lower mandible; iris red; legs pale grey. Total length 10·2 inches, culmen 0·8, wing 3·9, tail 6·2, tarsus 1·05.

*Adult female.* Similar in plumage to the male. Total length 10·3 inches, culmen 0·75, wing 3·9, tail 6·2, tarsus 1.

*Hab.* From Panama to Colombia, Ecuador and Peru, Central Brazil and Guiana.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Panama (*J. McLeannan*). | Salvin-Godman Coll. |
| *c.* Ad. sk. | Panama (*J. McLeannan*). | Sclater Coll. |
| *d.* ♀ ad. sk. | Medellin, Antioquia (*T. K. Salmon*). | Salvin-Godman Coll. |
| *e.* Ad. sk. | Bogota. | Seebohm Coll. |
| *f.* Ad. sk. | Bogota. | Sclater Coll. |
| *g.* ♂ ad. sk. | Merida, Venezuela (*A. Goering*). | Salvin-Godman Coll. |
| *h.* Ad. sk. | Demerara. | Zoological Society. |
| *i.* Ad. sk. | British Guiana. | Seebohm Coll. |
| *k.* Ad. sk. | Cayenne. | Sclater Coll. |
| *l.* Ad. sk. | Trinidad. | Sclater Coll. |
| *m.* Ad. sk. | Trinidad. | Sclater Coll. |
| *n.* Ad. sk. | Ecuador. | Seebohm Coll. |
| *o.* Ad. sk. | Babahoyo, Ecuador (*L. Fraser*). | Sclater Coll. |
| *p.* Ad. sk. | Balzar Mts., Ecuador (*Illingworth*). | Salvin-Godman Coll. |
| *q.* ♂ ad. sk. | Sarayacu, E. Peru (*E. Bartlett*). | Seebohm Coll. |
| *r.* ♂ ad. sk. | Pebas, E. Peru, June (*J. Hauxwell*). | Salvin-Godman Coll. |
| *s.* ♀ ad. sk. | Villa Maria, Brazil, Sept. (*J. Natterer*). | Salvin-Godman Coll. |
| *t.* ♂ ad. sk. | Villa Maria, Brazil, July (*J. Natterer*). | Sclater Coll. |
| *u.* Ad. sk. | Brazil. | Seebohm Coll. |
| *v–y.* Ad. sk. | South America. | Tweeddale Coll. |
| *z, a'.* Ad. sk. | South America. | Gould Coll. |

## 22. ZANCLOSTOMUS.

Type.
Zanclostomus, *Swains. Class. B.* ii. p. 323 (1837) ..... Z. javanicus.

*Range.* From Southern Tenasserim down the Malayan peninsula to Sumatra, Java, and Borneo.

### 1. Zanclostomus javanicus.

Phœnicophaes javanicus, *Horsf. Trans. Linn. Soc.* xiii. p. 178 (1822); *id. Zool. Research. Java*, pl. 57 (1824); *Steph. Gen. Zool.* xiv. p. 216 (1826); *Vig. Mem. Raffl.* p. 670 (1830); *Less. Traité*, p. 132 (1831); *Eyton, P. Z. S.* 1839, p. 105; *Schl. Mus. Pays-Bas*, Cuculi, p. 55 (1864).

Coccyzus rubrirostris, *Drap. Dict. Hist. Nat.* iv. p. 558 (1823).

Piaya chrysogaster, *Cuv., Less. Traité*, p. 140 (1831); *S. Müll. Landen Volk.* p. 234 (1839–44); *Pucher. Rev. et Mag. Zool.* 1853, p. 67.

Piaya erythrorhyncha, *Less. Traité*, p. 141 (1831); *Blyth, Cat. B. Mus. As. Soc.*, App. p. xix (1852).

Zanclostomus javanicus, *Swains. Class. B.* ii. p. 323 (1837); *Blyth, J. A. S. Beng.* xi. p. 1097 (1842), xiv. p. 200 (1845); *Gray, Gen. B.* ii. p. 460 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 76 (1849); *Bp. Consp.* i. p. 99 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 688 (1856–58); *Moore, P. Z. S.* 1859, p. 458; *Cab. & Heine, Mus. Hein.* iv. p. 64 (1862); *Gray, Hand-l. B.* ii. p. 206, no. 8730 (1870); *Sharpe, P. Z. S.* 1873, p. 606, fig. 13; *Salvad. Ucc. Borneo*, p. 75 (1874); *Hume, Str. F.* ii. p. 472 (1874); *Blyth & Wald. Cat. Mamm. & B. Burma*, p. 81 (1875); *Tweedd. Ibis*, 1877, p. 287; *Hume, Str. F.* vi. pp. 167, 506 (1878), viii. pp. 54, 89 (1879); *Sharpe, Ibis*, 1879, p. 245; *id. P. Z. S.* 1881, p. 793; *Nicholson, Ibis*, 1882, p. 54; *A. Müll. J. f. O.* 1882, p. 409; *Blasius, Verh. zool.-bot. Ges. Wien*, xxxiii. p. 33 (1883); *Nicholson, Ibis*, 1883, p. 87; *Oates, Handb. B. Brit. Burmah*, ii. p. 125 (1883); *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 175; *Sharpe, Ibis*, 1890, p. 13.

Melias javanicus, *Bp. Consp. Vol. Zygod.* p. 5 (1854).

*Adult.* Above leaden grey, very strongly glossed with bluish green on the mantle, wings, upper tail-coverts, and tail; the feathers of the forehead and crown with elongated black hair-like shafts; a small patch of bare skin round the eye bright blue; cheeks and throat tawny buff; chest leaden grey, slightly washed with buff; abdomen, thighs, and under tail-coverts chestnut; under surface of the wings blue-grey, partially mottled with rufous buff on the coverts; "bill bright coral-red, gape duller; iris blackish brown; legs plumbeous green" (*Davison*). Total length 18 inches, culmen 1·35, wing 5·5, tail 10·7, tarsus 1·3.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Java (*Horsfield*). | India Museum. (Types of the species.) |
| *c, d.* ♂ ♀ ad. sk. | Java (*A. R. Wallace*). | |
| *e.* Ad. sk. | Borneo. | Rajah Brooke [P.]. |
| *f.* ♀ ad. sk. | Matang, Sarawak, April (*H. Everett*). | Seebohm Coll. |

| | | |
|---|---|---|
| *g*, *h*, *i*. ♂ ad.; *k*. ♀ ad. sk. | Sumatra, Sept., Oct. (*C. Bock*). | Tweeddale Coll. |
| *l*. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *m*. Ad. sk. | Singapore. | Tweeddale Coll. |
| *n*. Ad. sk. | Singapore. | Gould Coll. |
| *o*, *p*. ♂ ad. sk. | Johore, March, Sept. (*W. Davison*). | Hume Coll. |
| *q*. Ad. sk. | Pulo Seban, Malacca, Nov. 10 (*W. Davison*). | Hume Coll. |
| *r*, *s*. Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *t*, *u*. Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *v*–*k'*. Ad. sk. | Malacca, Jan., July, Aug., Sept. (*W. Davison*). | Hume Coll. |
| *l'*. Ad. sk. | Klang, Salangore, March 20 (*W. Davison*). | Hume Coll. |
| *m'*. Ad. sk. | Perak. | Seebohm Coll. |
| *n'*. Ad. sk. | Penang. | Hume Coll. |
| *o'*. ♂ ad. sk. | Malewoon, Tenasserim, April 20 (*A. L. Hough*). | Hume Coll. |
| *p'*. Ad. sk. | Malewoon. | Oates Coll. |
| *q'*, *r'*, *s'*. ♂ ad. et imm.; *t'*. ♀ ad. sk. | Bankasoon, Feb., April, Nov. (*W. Davison*). | Hume Coll. |
| *u'*. ♀ ad. sk. | Tavoy, April 13 (*W. Davison*). | Hume Coll. |
| *v'*. Skeleton. | Java. | Purchased. |

## 23. TACCOCUA.

| | Type. |
|---|---|
| Taccocua, *Less. Traité Orn.* p. 143 (1831) ..... | T. sirkee. |
| Acentetus, *Cab. & Heine, Mus. Hein.* iv. p. 102 (1862).... | T. sirkee. |

*Range.* Indian Peninsula and Ceylon.

### 1. Taccocua sirkee.

Centropus sirkee, *Gray, Ill. Ind. Zool.* i. pl. 28 (1830).

Taccocua leschenaulti, *Less. Traité*, p. 144 (1831); *Blyth, J. A. S. Beng.* xiv. p. 201 (1845); *id. & Wald. Cat. B. Mus. As. Soc.* p. 77 (1849); *Jerd. B. Ind.* i. p. 352 (1862); *Holdsworth, P. Z. S.* 1872, p. 433; *Hume, Nests & Eggs Ind. B.* p. 145 (1873); *Sharpe, P. Z. S.* 1873, p. 602, fig. 5; *Legge, Ibis*, 1875, p. 285; *Butler, Str. F.* v. p. 218 (1877); *Davidson & Wenden, op. cit.* vii. p. 79 (1878); *Hume, op. cit.* viii. p. 55 (1879); *Legge, B. Ceylon*, i. p. 266 (1880); *Vidal, Str. F.* ix. p. 56 (1880); *Butler, t. c.* p. 889; *Davison, op. cit.* x. p. 361 (1881); *Marshall, Ibis*, 1884, p. 411; *Swinh. & Barnes, Ibis*, 1885, p. 64.

Coccyzus chrysogaster (*nec Cuv.*), *Royle, Ill. Bot. &c. Himalayan Mts., List B.* p. 78 (1837); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 687 (1856–58).

Zanclostomus sirkee, *Jerd. Madr. Journ.* xi. p. 233 (1840); *Blyth, J. A. S. Beng.* xi. p. 1098 (1842), xii. p. 246 (1843); *Gray, Hand-l. B.* ii. p. 207, no. 8877 (1870).

Centropus cuculoides, *Smith, J. A. S. Beng.* x. p. 659 (1841); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 687 (1856–58).

Taccocua infuscata, *Blyth, J. A. S. Beng.* xiv. p. 200 (1845); *id. Cat. B. Mus. As. Soc.* p. 77 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 687 (1856–58); *Jerd. B. Ind.* i. p. 353 (1862); *Scully, Str. F.* viii. p. 258 (1879).

Taccocua sirkee, *Blyth, J. A. S. Beng.* p. 201 (1845); *id. Cat. B. Mus. As. Soc.* p. 77 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 687 (1856–58); *Jerd. B. Ind.* i. p. 353 (1862); *id. Ibis*, 1872, p. 16; *Hume, Nests & Eggs Ind. B.* p. 145 (1873); *Adam, Str. F.* i. p. 374 (1873); *Ball, op. cit.* ii. p. 395 (1874); *Reid, op. cit.* x. p. 28 (1881); *Davison, t. c.* p. 300; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 408 (1890).

Taccocua affinis, *Blyth, J. A. S. Beng.* xv. p. 19 (1846); *id. Cat. B. Mus. As. Soc.* p. 77 (1849); *Jerd. B. Ind.* i. p. 354 (1862); *Hume, Nests & Eggs Ind. B.* p. 146 (1873); *Ball, Str. F.* ii. p. 394 (1874), iii. p. 290 (1875); *Fairbank, op. cit.* iv. p. 255 (1876); *Ball, op. cit.* vii. p. 208 (1878).

Zanclostomus affinis, *Gray, Gen. B.* iii. App. p. 23 (1849); *id. Hand-l. B.* ii. p. 207, no. 8878 (1870).

Zanclostomus infuscatus, *Gray, Gen. B.* iii. App. p. 23 (1849); *id. Hand-l. B.* ii. p. 207, no. 8876 (1870).

Taccocua sirki infuscata, *Bp. Consp. Vol. Zygod.* p. 5 (1854).

Taccocua sirki cuculoides, *Bp. l. c.*

Acentetus infuscatus, *Cab. & Heine, Mus. Hein.* iv. p. 102, note 1 (1864).

Acentetus affinis, *Cab. & Heine, t. c.* p. 103, note 2.

Acentetus sirki, *iid. ibid.* note 3.

Acentetus leschenaulti, *iid. ibid.* note 4.

Phœnicophaes sirkee, *Schl. Mus. Pays-Bas*, Cuculi, p. 56 (1864).

Zanclostomus leschenaulti, *Gray, Hand-l. B.* ii. p. 207, no. 8879 (1870).

*Adult.* Above pale brown, glossed with olive on the quills and two centre tail-feathers; remainder of the tail blackish, with broad white ends to the feathers; the shafts of the feathers of the head, neck, mantle, and front of the chest strong, glossy, and blackish, forming bristles, especially on the front of the head; sides of the head paler, with a partial white eyebrow, with strong black bristles forming eyelashes; under surface of body rufous, paler on the throat and almost white on the chin and shaded on the sides of the lower throat with the colour of the upper parts; lower abdomen and under tail-coverts inclining to dusky brown; under wing-coverts rufous-buff; under surface of the quills silvery brown, with their inner webs narrowly washed with rufous: "bill red, yellowish at tip; gape black, and a dark patch on the sides of the upper mandible; iris brown; legs greenish slate-colour" (*Davison*). Total length 17 inches, culmen 1·2, wing 6·1, tail 9·6, tarsus 1·7.

*Nestling.* Differs from the adult in having rather broad black shaft-stripes to the feathers of the head, throat, and chest, while most of the feathers of the mantle, back, and tail have rufous edges.

After selecting six specimens in good plumage, representing all the races recognized by ornithologists, I find that their measurements entirely fail to yield a specific character. The palest specimen from the Punjab is of a pale ochreous-brown colour, with the two centre tail-feathers slightly darker and glossed with olive; one from Simla

is darker and strongly shaded with rufous, especially on the crown. The specimen fully described above is also from Simla. A Saugor specimen is equally dark, but greyer, with no rufous or buff shade; one from Kandala is very slightly darker both above and below. Specimens from the Bhotan Dooars are very similar to the last, but still slightly darker beneath. A female bird from Ceylon (July) agrees perfectly in the shade of the upper parts with the Kandala and Bhotan Dooars specimens, and is not darker on the breast than individuals from the Punjab, Simla, and Bhotan Dooars. I therefore can only recognize one species of *Taccocua*, admitting that it varies very slightly in shade of colouring, probably according to the amount of rainfall of the district which it inhabits.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Sindh, Nov. 9 (*Scrope Doig*). | Hume Coll. |
| *b*. Ad. sk. | Kutch. | Hume Coll. |
| *c*, *d*. ♀ ad. sk. | Deesa, June (*E. A. Butler*). | Hume Coll. |
| *e*. Ad. sk. | Godra, Panch Mahals, Sept. | Hume Coll. |
| *f*. Imm. sk. | N. Gujarat, Dec. (*H. M. James*). | Hume Coll. |
| *g*. ♂ ad.; *h*, *i*. ♀ ad. sk. | Kakrolee, Oodeypur, Feb. | Hume Coll. |
| *k*. Ad. sk. | Mount Aboo. | Hume Coll. |
| *l*, *m*. Ad. sk. | Erinpoorah, Oct. | Hume Coll. |
| *n*, *o*. ♂ ♀ ad. sk. | Ajmere, Nov., Jan. (*A. O. H.*). | Hume Coll. |
| *p*, *q*. ♂ ♀ ad.; *r*. Juv. sk. | Sambhur, May, June (*R. M. Adam*). | Hume Coll. |
| *s*–*b'*. ♂ ♀ ad. sk. | Gurgaon, Nov. to March (*W. N. Chill*). | Hume Coll. |
| *c'*. ♀ ad. sk. | Umbala, Feb. (*Dr. Scott*). | Tweeddale Coll. |
| *d'*, *e'*. Ad. sk. | Kotegurh, Dec., March. | Hume Coll. |
| *f'*, *g'*, *h'*. Ad. sk. | Simla, March, April. | Hume Coll. |
| *i'*, *k'*, *l'*. ♂ ♀ ad. sk. | Dehra Dhoon, Feb., March, April. | Hume Coll. |
| *m'*. Ad. sk. | Dehra Dhoon. | Tweeddale Coll. |
| *n'*. Ad. sk. | Jerripanie, Masuri. | Hume Coll. |
| *o'*. ♀ ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *p'*. ♀ ad. sk. | Kumaon Bhabur, April. | Hume Coll. |
| *q'*. ♀ ad. sk. | Bareilly, Oct. (*W. E. Brooks*). | Hume Coll. |
| *r'*–*u'*. ♂ ♀ ad. *v'*. Pull. sk. | Rahimabad, Aug., Sept., Oct. (*G. Reid*). | Hume Coll. |
| *w'*. Ad. sk. | Lucknow, May 28. | Colonel Way [P.]. |
| *x'*, *y'*. ♀ ad. sk. | Futtehgurh, April, Oct. | Hume Coll. |
| *z'*. Ad. sk. | Gondah (*S. Pinwill*). | Tweeddale Coll. |
| *a''*. Ad. sk. | Mogul Serai, Feb. (*W. B. Brooks*). | Hume Coll. |
| *b''*, *c''*. Ad. sk. | Oudh, Oct. | Hume Coll. |
| *d''*, *e''*, *f''*. ♂ ad.; *g''*–*k''*. Ad. sk. | Saugor, Dec., Jan. | Hume Coll. |
| *l''*. ♀ ad. sk. | Burharwa, Chumparun, March. | Hume Coll. |
| *m''*. Ad. sk. | Allahabad. | Hume Coll. |
| *n''*. ♀ ad. sk. | Chunar, June 1. | Hume Coll. |
| *o''*. Ad. sk. | Behar. | Hodgson Coll. |
| *p''*. Ad. sk. | Nepal Valley, Nov. 27 (*J. Scully*). | Hume Coll. |

| | | |
|---|---|---|
| *q''*. Ad. sk. | Nepal. | Hodgson Coll. |
| *r''*, *s''*, *t''*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *u''*. Ad. sk. | Sikhim. | Seebohm Coll. |
| *v''*, *w''*, *x''*. Ad. sk. | Bhotan Dooars, Jan., Feb. (*L. Mandelli*). | Hume Coll. |
| *y''*. Ad. sk. | Maunbhoom. | Hume Coll. |
| *z''*. ♀ ad. sk. | Sumbalpur, Dec. 16. | Hume Coll. |
| *a*³, *b*³. Ad. sk. | Palamow, Feb. | Hume Coll. |
| *c*³–*p*³. ♂ ♀ ad. sk. | Raipur, Dec., Jan. | Hume Coll. |
| *q*³. ♀ ad.; *r*³. ♂ pull. st. | Seoni. | Hume Coll. |
| *s*³. ♀ ad. sk. | Manpur, May 28. | Colonel Swinhoe [P.]. |
| *t*³, *u*³. Ad. sk. | Khandeish, Feb., May (*J. Davidson*). | Hume Coll. |
| *v*³. ♂ ad.; *w*³, *x*³. ♀ ad. sk. | Ahmednuggar, Dec., Jan. (*S. B. Fairbank*). | Tweeddale Coll. |
| *y*³, *z*³. ♂ ♀ ad. sk. | Khandala, April (*S. B. Fairbank*). | Hume Coll. |
| *a*⁴, *b*⁴. ♂ ad.; *c*⁴, *d*⁴. ♀ ad. sk. | South Konkan, March, April, May (*G. Vidal*). | Hume Coll. |
| *e*⁴. ♀ ad. sk. | Ratnagiri, June (*J. Armstrong*). | Hume Coll. |
| *f*⁴. ♂ ad. sk. | Kotagherry, Nilghiris, Sept. (*Miss Cockburn*). | Hume Coll. |
| *g*⁴. Ad. sk. | Anjango, Travancore. | Hume Coll. |
| *h*⁴. ♂ ad. sk. | Kandy, Ceylon. | R. B. Sharpe, Esq. [P.]. |
| *i*⁴. ♂ ad. sk. | Ceylon, July. | Colonel Legge [P.]. |
| *k*⁴. Skeleton. | Nepal. | Hodgson Coll. |

## 24. RHOPODYTES.

| | Type. |
|---|---|
| Rhopodytes, *Cab. & Heine, Mus. Hein.* iv. p. 61 (1862) | R. diardi. |
| Poliococcyx, *Sharpe, P. Z. S.* 1873, p. 606 | R. sumatranus. |

*Range.* India and Ceylon, ranging through the Burmese countries to Cochin China, and down the Malayan Peninsula to Java, Sumatra, and Borneo.

### *Key to the Species.*

*a*. Feathers of the throat forked; bare skin on the sides of the head blue ..... *viridirostris*, p. 385.

*b*. Feathers of the throat not forked; bare skin on the sides of the head red.

*a'*. With no rufous on the plumage; nostrils rounded or oval, not elongated, and inclined upwards.

*a''*. Larger, wing over 5·5 inches.

*a'''*. Wing 6·5 inches; front of the crown, eyebrows, and throat less uniform, these feathers having clear black shaft-stripes ..... *tristis*, p. 386.
*b'''*. Wing 5·8 inches; the feathers of the crown, eyebrows, and throat less striped ..... *elongatus*, p. 389.
*b''*. Smaller, wing less than 5 inches.
*c'''*. Paler, less grey beneath; chin whitish; lower throat and chest washed with brownish yellow ..... *borneensis*, p. 389.
*d'''*. Darker, chin, throat, and chest uniform leaden grey ..... *diardi*, p. 390.
*b'*. Centre of the breast and the under tail-coverts deep rufous; nostrils elongated and inclined upwards ..... *sumatranus*, p. 391.

## 1. Rhopodytes viridirostris.

Zanclostomus viridirostris, *Jerd. Madr. Journ.* xi. p. 223 (1840); *Blyth, J. A. S. Beng.* xiv. p. 200 (1845); *Jerd. Ill. Ind. Orn.* pl. 3 (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 76 (1849); *Layard, Ann. & Mag. Nat. Hist.* xiii. 1854, p. 453; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 690 (1856–58); *Jerd. B. Ind.* i. p. 346 (1862); *Holdsworth, P. Z. S.* 1872, p. 432; *Legge, Ibis*, 1874, p. 16, 1875, p. 284; *Hume, Str. F.* iv. p. 458 (1876); *Fairbank, op. cit.* v. p. 397 (1877); *Legge, B. Ceylon*, i. p. 258 (1880).
Phœnicophaus jerdoni, *Blyth, J. A. S. Beng.* xi. p. 1095 (1842), xii. p. 246 (1843).
Phœnicophaus viridirostris, *Hartl. Nachtr. Verz. Vög. Mus. Brem.* p. 16 (1844).
Melias viridirostris, *Bp. Consp. Vol. Zygod.* p. 5 (1854).
Rhopodytes viridirostris, *Cab. & Heine, Mus. Hein.* iv. p. 63 (1862); *Davidson & Wenden, Str. F.* vii. p. 79 (1878); *Ball, t. c.* p. 207; *Hume, op. cit.* viii. p. 89 (1879); *Vidal, op. cit.* ix. p. 55; *Butler, t. c.* p. 389; *Davison, op. cit.* x. p. 306 (1881); *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 399.

*Adult male*. Crown and back dusky grey with a very slight greenish gloss; mantle, wings, upper tail-coverts, and tail glossy olive, the latter with broad white ends to the feathers; the feathers deepening in colour on the sides of the head, becoming black on the eyebrow and in front of the bare orbital patch, which is pale blue; underparts dusky ashy, streaked on the throat with rather broad black shaft-stripes and narrow buffish-white edges; centre of the breast washed with buff; under surface of the quills black, the coverts dusky grey, the whole glossed with greenish blue: "bill very pale green; iris dark brown; legs and feet plumbeous" (*Davison*). Total length 15·8 inches, culmen 1·2, wing 5·2, tail 9·5, tarsus 1·35.

*Adult female*. Similar in plumage to the male. Total length 16·5 inches, culmen 1·2, wing 5·2, tail 9·5, tarsus 1·35.

*Hab*. Ceylon and Southern India.

| | | |
|---|---|---|
| *a*. Ad. sk. | Madras. | T.C.Jerdon,Esq. [P.]. (Type of species.) |
| *b*. Ad. sk. | Madras (*Jerdon*). | Gould Coll. |
| *c*, *d*. ♂ ad. sk. | Dumagudiam, S. of Godavery, Jan., Feb. (*W. T. Blanford*). | Hume Coll. |
| *e*, *f*, *g*. ♂ ad.: *h*, *i*. ♀ ad. sk. | Malvan, S. Konkan, Jan., March (*G. Vidal*). | Hume Coll. |
| *k*. Ad. sk. | Belgaum (*E. A. Butler*). | Hume Coll. |
| *l*. ♂ ad. sk. | Shevaroy Hills, Salem, Nov. | Hume Coll. |
| *m*. ♂ ad. sk. | Sivasamoodrum, Mysore, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *n*. ♂ ♀ ad. sk. | Manantoddy, Wynaad, April (*W. Davison*). | Hume Coll. |
| *o*, *p*. ♂ ♀ ad. sk. | Seegore, Nilghiris, Dec., Feb. (*W. Davison*). | Hume Coll. |
| *q*, *r*. ♂ ad.; *s*. ♀ ad. sk. | Kullar, Nov., Feb. (*W. Davison*). | Hume Coll. |
| *t*–*w*. ♂ ad.: *x*. ♀ ad. sk. | Coonoor Ghat, April, Sept. (*R. G. W. R.*). | Tweeddale Coll. |
| *y*, *z*, *a'*. Ad. sk. | Malabar. | Tweeddale Coll. |
| *b'*, *c'*. Ad. sk. | Calicut. | Hume Coll. |
| *d'*, *e'*, *f'*. Ad. sk. | Anjango, Travancore. | Hume Coll. |
| *g'*. ♀ ad. sk. | Rameswaren Island, March. | Hume Coll. |
| *h'*–*o'*. Ad. et imm. sk. | Ceylon, Dec., July (*S. Chapman & H. Nevill*). | Tweeddale Coll. |
| *p'*. ♂ ad. sk. | Ceylon, March. | Colonel Legge [P.]. |
| *q'*–*r'*. ♂ ♀ ad. sk. | Ragam Korale, Aug., Sept. (*Hart*). | Hume Coll. |
| *w'*–*x'*. Ad. sk. | Kandy, Ceylon (*Whyte*). | Seebohm Coll. |

## 2. Rhopodytes tristis.

Melias tristis, *Less. Traité Orn.* 1831, p. 132; *id. in Bélang. Voy. Ind. Orient. Zool.* 1834, p. 231, pl. i.

Phœnicophæus longicaudatus, *Blyth, J. A. S. Beng.* x. 1841, p. 923, xi. 1842, p. 1095, xii. 1843, p. 246.

Phœnicophæus monticolus, "*Hodgs.*," *Blyth, J. A. S. Beng.* xi. 1842, p. 1095.

Phœnicophæus montanus, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 342. fig. 212 (no. 212); *id. in Gray's Zool. Misc.* p. 85 (1844).

Phœnicophæus tristis, *Blyth, J. A. S. Beng.* xi. 1842, p. 928.

Zanclostomus tristis, *Blyth, J. A. S. Beng.* 1843, p. 246, xiv. p. 200 (1845); *id. Cat. B. Mus. As. Soc.* 1849, p. 76; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. 1856, p. 691; *Jerd. B. Ind.* i. 1862, p. 345; *id. Ibis*, 1872, p. 15; *Hume, Nests & Eggs Ind. B.* 1873, p. 143; *Ball, Str. F.* 1874, p. 394; *Hume, Str. F.* 1874, p. 472, 1875, p. 83; *Blyth, Cat. Mamm. & B. Burma*, 1875, p. 81; *Oates, Str. F.* 1877, p. 144; *David & Oust. Ois. Chine*, 1877, p. 58.

Rhopodytes tristis, *Cab. & Heine, Mus. Hein.* iv. p. 64 (1862); *Armstrong, Str. F.* iv. 1876, p. 312; *Hume, Str. F.* v. 1877, p. 27, vi. 1878, p. 162; *Ball, Str. F.* vii. 1878, p. 207; *Hume, Str. F.* viii. 1879, pp. 54, 89; *Scully, t. c.* p. 258; *Bingham, Str. F.* ix. 1880, p. 168; *Oates, Str. F.* x. 1881, p. 196; *id. Handb. B. Burmah*, ii., 1883, p. 121; *Salvad. Ann. Mus. Civ. Gen.* 1887, p. 582, 1888, p. 569; *Oates, ed. Nests & Eggs Ind. B.* ii. p. 397 (1890).

Phœnicophaës tristis, *Schl. Mus. P.-B.* Cuculi, 1864, p. 54.

*Adult male.* General plumage above ashy grey, glossed on the back with olive-green and passing into bright metallic olive-green on the wings and tail, with a shade of blue most pronounced on the quills; tail-feathers broadly tipped with white; most of the feathers of the crown with black shafts and those of the forehead with partial white edges; sides of the head bare and scarlet; in front of this bare skin a patch of black feathers, above and below edged with black and white, or with entirely white feathers; underparts ashy grey, paler towards the chin, and with black shafts to the feathers of the throat; the breast gradually passing into dusky slate-colour on the abdomen, thighs, and under tail-coverts, the latter generally glossed with green; under wing-coverts dusky ash-colour; under surface of quills uniform glossy blackish blue: "bill pale green, tinted with red from nostrils to gape; iris deep red-brown; legs and feet dark greenish lead-colour" (*Davison*). Total length 19 inches, culmen 1·3, wing 6·2, tail 12·6, tarsus 1·55.

*Adult female.* Similar in plumage to the male. Total length 21 inches, culmen 1·4, wing 6·7, tail 13, tarsus 1·55.

*Hab.* Central and Northern India, extending throughout the Burmese provinces to Cochin China and Hainan, and down the Malayan Peninsula.

| | | |
|---|---|---|
| *a*. Ad. sk. | Kaladoongi, Dhoon, Jan. | Hume Coll. |
| *b*. ♂ ad. sk. | Ramnuggur, Kumaon Bhabur, Feb. 27. | Hume Coll. |
| *c*, *d*. Ad. sk. | Kumaon (*Strachey*). | India Museum. |
| *e*. Ad. sk. | Oudh Terai. | Pinwill Coll. |
| *f*–*i*. Ad. sk. | Nepal. | Hodgson Coll. (Types of *P. montanus*.) |
| *k*. Ad. sk. | Nepal (*B. H. Hodgson*). | India Museum. |
| *l*, *m*. ♀ ad. sk. | Godaveri, Nepal Valley, May, Aug. (*J. Scully*). | Seebohm Coll. |
| *n*. Ad. sk. | Native Sikhim, June (*L. Mandelli*). | Hume Coll. |
| *o*–*w*. Ad. sk. | Sikhim, Feb., April, Aug., Oct., Nov. (*L. Mandelli*). | Hume Coll. |
| *x*–*b'*. Ad. sk. | Darjeeling. | Hume Coll. |
| *c'*, *d'*. Ad. sk. | Buxa Doars, Feb. (*L. Mandelli*). | Hume Coll. |
| *e'*. Ad. sk. | Bhotan Doars, Jan. (*L. Mandelli*). | Hume Coll. |
| *f'*–*i'*. ♂ ad.; *k'*. ♀ juv. sk. | Shillong, July, Aug., Sept. (*J. Cockburn*). | Hume Coll. |
| *l'*, *m'*, *n'*. ♂ ad. sk. | Dollah, April, May, June (*J. Cockburn*). | Hume Coll. |
| *o'*, *p'*. ♂ ad. sk. | Sadhya, April, June (*J. Cockburn*). | Hume Coll. |
| *q'*. ♂ ad.; *r'*, *s'*. ♀ ad. sk. | Dibrughur, April, Aug. (*J. R. Cripps*). | Hume Coll. |
| *t'*, *u'*, *v'*. Ad. sk. | Assam (*McClelland*). | India Museum. |
| *w'*, *x'*. Ad. sk. | Garo Hills. | Tweeddale Coll. |
| *y'*. ♂ ad. sk. | N. Khasia Hills, Jan. (*A. W. Chennell*). | Tweeddale Coll. |
| *z'*, *a''*. ♂ ad. sk. | Cachar, Feb. (*J. Inglis*). | Forbes Coll. |

| | | |
|---|---|---|
| *b''*. ♂ ad. sk. | Phalel, Manipur, April (*A. O. H.*). | Hume Coll. |
| *c''*. Ad. sk. | Commillah, Tipperah. | Hume Coll. |
| *d''*, *e''*, *f''*. ♂ ad. sk. | Aracan Hills, Pegu, Jan., Feb. (*E. W. Oates*). | Hume Coll. |
| *g''*, *h''*. ♂ ad.; *i''*, *k''*. ♀ ad. sk. | Pegu, Sept., Dec., March (*E. W. Oates*). | Hume Coll. |
| *l''–p''*. ♂ ♀ ad. sk. | Rangoon, June, July, Dec. (*R. G. W. R.*). | Tweeddale Coll. |
| *q''*. ♂ ad. sk. | China Ba-Keer, Dec. 20 (*J. Armstrong*). | Hume Coll. |
| *r''–x''*. ♂ ♀ ad. sk. | Tonghoo, April, May, June (*R. G. W. R.*). | Tweeddale Coll. |
| *y''*. ♂ ad. sk. | Karen-nee, March 26 (*R. G. W. R.*). | Tweeddale Coll. |
| *z''*, *a*$^3$. Ad. sk. | Kollidoo, Feb. (*W. Davison*). | Hume Coll. |
| *b*$^3$–*e*$^3$. ♂ ad.; *f*$^3$–*i*$^3$. ♀ ad. sk. | Pahpoon, Dec., Jan. (*W. Davison*). | Hume Coll. |
| *k*$^3$. ♂ ad. sk. | Youn-za-leen, Dec. (*W. Davison*). | Hume Coll. |
| *l*$^3$. Ad. sk. | Theinzeik, Dec. (*W. Davison*). | Hume Coll. |
| *m*$^3$–*q*$^3$. ♂ ad.; *r*$^3$. ♀ ad. sk. | Kaukaryit, May, June, Aug. (*J. Darling*). | Hume Coll. |
| *s*$^3$. ♂ ad. sk. | Thoungyah, Sept. 27 (*J. Darling*). | Hume Coll. |
| *t*$^3$. ♂ ad. sk. | Meplay, Thoungyeen, Oct. 12 (*C. T. Bingham*). | Hume Coll. |
| *u*$^3$. ♀ ad. sk. | Myawaddy, Thoungyeen, Dec. | Major Bingham [P.]. |
| *v*$^3$. ♀ ad. sk. | Thatone, Aug. (*W. Davison*). | Hume Coll. |
| *w*$^3$. Ad. sk. | Nedong, Attaran River, Dec. (*W. Davison*). | Hume Coll. |
| *x*$^3$, *y*$^3$. ♂ ♀ ad. sk. | Moulmein, March, Nov. (*W. Davison*). | Hume Coll. |
| *z*$^3$. Ad. sk. | Moulmein, Oct. (*R. C. Beavan*). | Tweeddale Coll. |
| *a*$^4$. ♂ ad. sk. | Assoon, March (*J. Limbory*). | Tweeddale Coll. |
| *b*$^4$. ♂ ad. sk. | Pabyouk, March (*W. Davison*). | Hume Coll. |
| *c*$^4$, *d*$^4$. ♂ ♀ ad. sk. | Yeaboo, March (*W. Davison*). | Hume Coll. |
| *e*$^4$–*p*$^4$. ♂ ♀ ad. sk. | Amherst, Dec., Jan., Feb., June, July (*W. Davison*). | Hume Coll. |
| *q*$^4$, *r*$^4$. ♂ ad. sk. | Karope, March (*W. Davison*). | Hume Coll. |
| *s*$^4$, *t*$^4$. ♂ ♀ ad. sk. | Meeta-Myo, April (*W. Davison*). | Hume Coll. |
| *u*$^4$. ♂ ad. sk. | Tavoy, March (*W. Davison*). | Hume Coll. |
| *v*$^4$, *w*$^4$. ♂ ♀ ad. sk. | Tavoy, April (*W. Davison*). | Hume Coll. |
| *x*$^4$. ♀ ad. sk. | Mergui, Dec. (*W. Davison*). | Hume Coll. |
| *y*$^4$, *z*$^4$. ♂ ad. sk. | Tenasserim Town, Nov. (*W. Davison*). | Hume Coll. |
| *a*$^5$. Ad. sk. | Meklong, Siam. | H. C. V. Hunter, Esq. [P.]. |
| *b*$^5$, *c*$^5$. Ad. sk. | Cambodia (*Mouhot*). | Tweeddale Coll |
| *d*$^5$. ♂ ad. sk. | Cochin China. | Seebohm Coll. |
| *e*$^5$. Juv. sk. | Cochin China, Aug. | M. Pierre [P.]. |
| *f*$^5$. ♀ ad. sk. | Hainan, Feb. (*R. Swinhoe*). | Seebohm Coll. |
| *g*$^5$, *h*$^5$. Skeletons. | Nepal. | Hodgson Coll. |

### 3. Rhopodytes elongatus.

Phœnicophaus elongatus, *S. Müll. Tijdschr. Nat. Gesch.* 1835, p. 342, pl. 9. fig. 1; *id. Verh. Nat. Gesch. Land- en Volkenk.* 1839, p. 234, note; *Snelleman in Veth's Midden-Sumatra, Vog.* 1884, p. 34.
Zanclostomus elongatus, *Gray, Gen. B.* iii. 1849, App. p. 23.
Zanclostomus tristis, *Bp.* (*nec Less.*) *Consp.* i. 1850, p. 99, part.; *Scl. P. Z. S.* 1863, p. 208.
Melias elongatus, *Bp. Consp. Vol. Zygod.* 1854, p. 5.
Rhopodytes elongatus, *Cab. & Heine, Mus. Hein.* iv. p. 63 (1862); *Salvad. Ucc. Borneo*, 1874, p. 70; *Büttikofer, Notes Leyden Mus.* 1886, p. 30.
Phœnicophaës elongatus, *Schl. Mus. P.-B.* Cuculi, 1864, p. 55.

*Adult male.* Crown and back of the neck leaden grey, with narrow black elongated shaft-stripes, passing on the back into slaty grey slightly glossed with green; wings and tail bright glossy green, slightly bluer on the quills; tail-feathers with broad white ends; a bare ophthalmic patch rugose and of a red colour, surrounded above and below by white feathers and in front by black ones; chin white, passing into ashy on the throat and chest, which latter inclines to buff down the centre; lower breast and sides of the body slaty grey, darkest towards the abdomen and thighs, and shaded with glossy green on the under tail-coverts; under surface of the wings blue-black. Total length 22 inches, culmen 1·3, wing 5·7, tail 16, tarsus 1·35.

*Adult female.* Similar in plumage to the male. Total length 19·7 inches, culmen 1·3, wing 5·7, tail 14, tarsus 1·35.

Very similar to *R. tristis*, but differing in having a less amount of stripes on the forehead, crown, and throat, and a stronger wash of yellow on the lower throat and chest.

*Hab.* Sumatra.

| | | |
|---|---|---|
| *a.* ♀ ad. st.; *b.* Ad. sk. | Sumatra. | Purchased. |
| *c–k.* Ad. sk. | Sumatra (*Carl Bock*). | Tweeddale Coll. |
| *l.* Skeleton. | Sumatra. | Purchased. |

### 4. Rhopodytes borneensis.

Melias borneensis, *Bp. Consp. Vol. Zygod.* p. 5 (1854).
Rhopodytes borneensis, *Sharpe, P. Z. S.* 1873, p. 604; *Salvad. Ucc. Borneo*, p. 72 (1874); *Sharpe, P. Z. S.* 1881, p. 792; *Blasius, J. f. O.* 1882, p. 246; *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 174.

*Adult male.* Very similar to *R. elongatus*, but much smaller, and differing in the white eyebrow being extremely narrow and not reaching forward to the forehead; lower throat, centre of breast, and abdomen brownish buff. Total length 13·4 inches, culmen 1·2, wing 5, tail 8·2, tarsus 1·3.

*Adult female.* Similar in plumage to the male. Total length 12·7 inches, culmen 1·15, wing 4·8, tail 7·6, tarsus 1·2.

*Hab.* Borneo.

| | | |
|---|---|---|
| *a.* Ad. sk. | Borneo. | Purchased. |
| *b.* Ad. sk. | Lawas River, Borneo. | H. Veitch, Esq. [P.]. |
| *c.* Ad. sk. | Sarawak, Borneo (*H. Everett*). | Seebohm Coll. |

### 5. Rhopodytes diardi.

Melias diardi, *Less. Traité*, p. 132 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 65.

Phœnicophaus tristis (*nec Less.*), *McClell. P. Z. S.* 1839, p. 166; *Blyth, J. A. S. Beng.* xi. p. 928, xii. p. 246 (1843).

Phœnicophaus sumatranus (*nec Raffl.*), *Blyth, J. A. S. Beng.* xii. p. 246 (1843); *Schl. Mus. Pays-Bas*, Cuculi, p. 53 (pt., 1864); *Snelleman in Veth's Midden-Sumatra, Vog.* p. 34 (1884).

Phœnicophaus diardi, *Blyth, J. A. S. Beng.* xv. p. 199 (1845); *Schl. Mus. Pays-Bas*, Cuculi, p. 54 (1864).

Zanclostomus diardi, *Gray, Gen. B.* ii. p. 460 (1845), iii. App. p. 23 (1849); *Des Murs. Iconogr. Orn.* pl. 19 (1849); *Blyth, Cat. B. Mus. As. Soc.* p. 76 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 690 (1856–58); *Moore, P. Z. S.* 1859, p. 458; *Blyth & Wald. Cat. Mamm. & B. Burma*, p. 81 (1875).

Phœnicophæus nigriventris, *Peale, U.S. Expl. Exped.* pp. 140, 141, pl. 39. fig. 1 (1848).

Zanclostomus sumatranus, juv. (*nec Raffl.*), *Bp. Consp.* i. p. 99 (1850).

Phœnicophaus nigriventris, *Hartl. Arch. f. Nat.* xviii. p. 107 (1852).

Rhopodytes diardi, *Cab. & Heine, Mus. Hein.* iv. p. 61 (1862); *Sharpe, P. Z. S.* 1873, p. 604, fig. 9 (head); *Hume, Str. F.* iii. p. 319 (1875); *Tweedd. Ibis*, 1877, p. 287; *Hume, Str. F.* vi. p. 163, viii. pp. 54, 89; *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 186 (1879); *Nicholson, Ibis*, 1882, p. 53; *Oates, Handb. B. Brit. Burmah*, ii. p. 122 (1883); *Büttik. Notes Leyden Mus.* 1886, p. 31; *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 174.

*Adult male.* General colour of the upper parts dark olive-shaded grey, the feathers of the head and neck with black shafts with hair-like ends: wings and tail glossy blackish olive, slightly shaded with blue, the latter with white ends to the feathers; throat ashy grey, with narrow black shafts to the feathers, gradually darkening into dusky black on the lower breast, flanks, abdomen, thighs, and under tail-coverts; under wing-coverts dusky; quills uniform glossy blue-black; bare ophthalmic patch rugose and crimson, with a patch of short black feathers close to the nostril: "bill pale green; iris dark brown; legs dark plumbeous green" (*Davison*). Total length 14 inches, culmen 1·3, wing 5, tail 8·2, tarsus 1·3.

*Adult female.* Similar in plumage to the male. Total length 14·3 inches, culmen 1·4, wing 5, tail 9, tarsus 1·4.

*Hab.* From Southern Tenasserim, down the Malayan Peninsula to Sumatra.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Usheetherrpone, Tenasserim River, Nov. (*W. Davison*). | Hume Coll. |
| *b.* ♂ ad. sk. | Hankachin, Feb. (*W. Davison*). | Hume Coll. |
| *c–g.* ♂ ♀ ad. sk. | Bankasoon, March to June (*W. Davison*). | Hume Coll. |
| *h, i.* ♂ ad.; *k.* ♀ ad. sk. | Malewoon, Dec., Jan. (*W. Davison*). | Hume Coll. |
| *l.* ♂ ad. sk. | Kossoum, May (*J. Darling*). | Hume Coll. |
| *m.* Ad. sk. | Perak, March (*Kelham*). | Forbes Coll. |

| | | |
|---|---|---|
| *n*–*u*. ♂ ad.; *v*–*y*. ♀ ad. sk. | Klang, Jan.–March, July (*W. Davison*). | Hume Coll. |
| *z*. Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *a'*–*i'*. Ad. sk. | Malacca, July, Aug. (*W. Davison*). | Hume Coll. |
| *k'*, *l'*, *m'*. ♂ ad.; *n'*. ♀ ad. sk. | Malacca, Aug. (*R. G. W. R.*). | Tweeddale Coll. |
| *o'*, *p'*, *q'*. ♂ ad.; *r'*. ♀ ad. sk. | Pulo Sebah, Oct., Nov. (*W. Davison*). | Hume Coll |
| *s'*. Ad. sk. | Chohong, Nov. (*W. Davison*). | Hume Coll. |
| *t'*, *u'*. ♂ ad.; *v'*. ♀ ad. sk. | Kurroo, Nov. (*W. Davison*). | Hume Coll. |
| *w'*–*e''*. ♂ ♀ ad. sk. | Nealys, Oct. (*W. Davison*). | Hume Coll. |
| *d''*. Ad. sk. | Singapore Island. | Hume Coll. |
| *e''*–*p''*. ♂ ♀ ad. et juv. sk. | Sumatra, Sept., Oct. (*A. R. Wallace & C. Bock*). | Tweeddale Coll. |
| *q''*, *r''*, *s''*. Ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |

### 6. Rhopodytes sumatranus.

Cuculus sumatranus, *Raffl. Trans. Linn. Soc.* xiii. p. 287 (1822); *Strickl. J. A. S. Beng.* xiii. p. 391, note (1844).

Phœnicophaus sumatranus, *Vig. Mem. Raffl.* p. 671 (1830); *Blyth, J. A. S. Beng.* xiv. p. 199 (1845).

Phœnicophaus crawfurdii, *J. E. Gray, Zool. Misc.* i. p. 3, pl. 3 (1831); *Eyton, P. Z. S.* 1839, p. 105.

Zanclostomus crawfurdii, *Gray, Gen. B.* ii. p. 460 (1845).

Zanclostomus sumatranus, *Gray, Gen. B.* ii. p. 460 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 76 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 689 (1856–58); *Moore, P. Z. S.* 1859, p. 458; *Scl. P. Z. S.* 1863, p. 208; *Gray, Hand-l. B.* ii. p. 207, no. 8884 (1870); *Brügg. Abhandl. nat. Ver. Bremen*, i. p. 455 (1877), v. p. 455 (1882).

Melias sumatranus, *Bp. Consp. Vol. Zygod.* p. 5 (1854).

Rhopodytes sumatranus, *Cab. & Heine, Mus. Hein.* iv. p. 62 (1862); *Salvad. Ucc. Borneo*, p. 73 (1874); *Sharpe, Ibis*, 1879, p. 245; *Hume, Str. F.* viii. pp. 54, 89 (1879); *Kelham, Ibis*, 1881, p. 393; *Blasius, J. f. O.* 1882, p. 246; *A. Müll. t. c.* p. 409; *Blasius, Verh. zool.-bot. Ges. Wien*, xxxii. p. 23 (1883); *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 174.

Cuculus cristatus, "*Licht. MS.*," *Cab. & Heine, Mus. Hein.* iv. p. 62 (1862).

Poliococcyx sumatranus, *Sharpe, P. Z. S.* 1873, p. 606, fig. 14 (head), 1875, p. 104; *Hume, Str. F.* iii. p. 319 (1875); *Oates, Handb. B. Brit. Burmah*, ii. p. 123 (1883); *Sharpe, Ibis*, 1890, p. 13.

*Adult.* General plumage above slaty grey; crown and back of neck with black hair-like shafts to the feathers, and with a slight gloss of green which increases in brilliancy on the back, wings, and tail, the quills and outer tail-feathers inclining to bluish black; all the tail-feathers with moderately broad white ends; ophthalmic bare patch rugose and orange-red, separated from the culmen by a narrow band of short black feathers; throat slaty grey, slightly

paler than the crown and with the same black hair-like shafts to the feathers, and slightly glossed with green towards the chest; sides of the body and the thighs darker and more strongly glossed with green; centre of chest, abdomen, and under tail-coverts deep rufous; under surface of wings glossy blue-black, slightly greyer and greener on the coverts: "bill dull greener; legs slaty; claws black; iris bluish grey" (*Davison*). Total length 14·8 inches, culmen 1·4, wing 5·3, tail 8·4, tarsus 1·4.

*Hab.* Southern Tenasserim, down the Malayan Peninsula to Java, Sumatra, and Borneo.

| | | |
|---|---|---|
| *a*–*k*. ♂ ad.: *l* ♀ ad. sk. | Mergui, June, July, Nov., Dec. (*W. Davison*). | Hume Coll. |
| *p*. ♂ ad. sk. | Bankasoon, June (*W. Davison*). | Hume Coll. |
| *q*. ♀ ad. sk. | Malewoon, April (*W. Davison*). | Hume Coll. |
| *r*. Ad. sk. | Kopah, Dec. (*W. Davison*). | Hume Coll. |
| *s*–*d'*. ♂ ♀ ad. et imm. sk. | Kossoum, April to June (*J. Darling*). | Hume Coll. |
| *e'*–*h'*. ♂ ♀ ad. sk. | Klang, Salangore, Feb., April (*W. Davison*). | Hume Coll. |
| *i'*, *k'*. Ad. sk. | Malacca (*Dr. Maingay*). | Tweeddale Coll. |
| *l'*. Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *m'*–*p'*. Ad. sk. | Malacca, July, Aug. (*W. Davison*). | Hume Coll. |
| *q'*. ♀ ad. sk. | Pulo Seban, Nov. (*W. Davison*). | Hume Coll. |
| *r'*, *s'*. ♂ ad. sk. | Kuroo, Nov. (*W. Davison*). | Hume Coll. |
| *t'*, *u'*. ♂ ♀ ad. sk. | Nealys, Oct. (*W. Davison*). | Hume Coll. |
| *v'*–*z'*. ♂ ad.; *a''*–*d''*. ♀ ad. sk. | Johore, March, July, Aug. (*W. Davison*). | Hume Coll. |
| *e''*. Ad. sk. | Singapore (*A. R. Wallace*). | Gould Coll. |
| *f''*. Ad. sk. | Singapore Island, Dec. (*W. Davison*). | Hume Coll. |
| *g''*–*k''*. ♂ ♀ ad. sk. | Sumatra (*A. R. Wallace*). | Tweeddale Coll. |
| *l''*, *m''*, *n''*. Ad. sk. | Billiton. | Tweeddale Coll. |
| *o''*, *p''*. Ad. sk. | Sarawak. | Rajah Brooke [P.]. |
| *q''*. ♀ ad. sk. | Santubong, Sarawak, April (*A. Everett*). | Salvin-Godman Coll. |
| *r''*. Ad. sk. | Lumbidan (*Sir Hugh Low*). | Seebohm Coll. |
| *s''*, *t''*. Ad. sk. | Labuan (*Sir Hugh Low*). | R. B. Sharpe, Esq. [P.]. |

## 25. RHINORTHA.

| | Type. |
|---|---|
| Rhinortha, *Vig. Mem. Raffl.* p. 671 (1830) | R. chlorophæa. |
| Bubutus, *Less. Traité*, p. 143 (1831) | R. chlorophæa. |
| Anadænus, *Swains. Class. B.* ii. p. 324 (1837) | R. chlorophæa. |
| Idiococcyx, *Boie, fide Gray, List Gen. & Subgen. B.* no. 1625 (1855) | R. chlorophæa. |

*Range.* Southern Tenasserim, through the Malayan Peninsula to Sumatra and Borneo.

### 1. Rhinortha chlorophæa.

Cuculus chlorophæus, *Raffl. Tr. Linn. Soc.* xiii. p. 288 (1822).
Anadænus rufescens, *Swains. An. in Menag.* p. 346 (1828); *id. Class. B.* ii. p. 324 (1837).
Phœnicophæus caniceps, *Vig. App. Mem. Raffl.* p. 671 (1830).
Rhinortha chlorophæa, *Vig. App. Mem. Raffl.* p. 671 (1830); *Blyth, J. A. S. Beng.* xi. p. 924 (1842), xii. p. 246 (1843), xiv. p. 199 (1845), xvi. p. 468 (1847); *id. Cat. B. Mus. As. Soc.* p. 76 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 692 (1856–58); *Moore, P. Z. S.* 1859, p. 458; *Cab. & Heine, Mus. Hein.* iv. p. 58 (1862); *Scl. P. Z. S.* 1863, p. 208; *Sharpe, P. Z. S.* 1873, p. 603; *Salvad. Ucc. Borneo*, p. 69 (1874); *Hume, Str. F.* ii. p. 473 (1874); *Blyth & Wald. Cat. Mamm. & B. Burmah*, p. 82 (1875); *Sharpe, P. Z. S.* 1875, p. 104; *id. Ibis*, 1876, p. 34; *Tweedd. Ibis*, 1877, p. 287; *Hume & Davison, Str. F.* vi. p. 166 (1878); *Sharpe, Ibis*, 1879, p. 245; *Hume, Str. F.* viii. pp. 54, 89 (1879); *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 186 (1879); *Kelham, Ibis*, 1881, p. 394; *Sharpe, P. Z. S.* 1881, p. 792; *Blasius, J. f. O.* 1882, p. 245; *A. Müll. t. c.* p. 409; *Nicholson, Ibis*, 1882, p. 54; *Brügg. Abhandl. nat. Ver. Bremen*, v. p. 454 (1882); *Oates, Handb. B. Brit. Burmah*, ii. p. 120 (1883); *Nicholson, Ibis*, 1883, pp. 87, 242; *Blasius, Verh. zool.-bot. Ges. Wien*, xxxii. p. 32 (1883); *Guillemard, P. Z. S.* 1885, p. 406; *Büttikofer, Notes Leyden Mus.* 1886, p. 22; *Sharpe, Ibis*, 1890, p. 13.
Bubutus duvaucelii, *Less. Traité*, p. 143 (1831); *id. in Bélang. Voy. Ind. Orient., Zool.* p. 235 (1834).
Bubutus isidori, *Less. Traité*, p. 143 (1831); *id. in Bélang. Voy. Ind. Orient., Zool.* p. 234, pl. ii. (1834).
Coccyzus badius, *Gray, Zool. Misc.* 1831, p. 3.
Phœnicophaus chlorocephalus, *Vig. P. Z. S.* 1839, p. 105.
Phœnicophaus viridirostris, *Vig. P. Z. S.* 1839, p. 105.
Idiococcyx chlorophæus, *S. Müll. Verh. Nat. Gesch. Land- en Volkenk.* p. 234 (1839–44).
Phœnicophaës chlorophæus, *S. Müll. t. c.* p. 234, note; *Schl. Mus. Pays-Bas*, Cuculi, p. 51 (1864); *Snelleman in Veth's Midden-Sumatra, Vog.* p. 34 (1884).
Rhinortha rufescens, *Blyth, J. A. S. Beng.* xi. p. 923 (1842), xii. p. 246 (1843).
Phœnicophaus lucidus, *Blyth, J. A. S. Beng.* xiii. p. 390 (1844).
Rhinortha lucida, *Blyth, J. A. S. Beng.* xiv. p. 199 (1845).
Anadænus rufus, "*Swains.*," *Blyth, Cat. B. Mus. As. Soc.* p. 77 (1849).
Cuculus sumatranus, "*Cuv. MS.*" (*nec Raffl.*), *Cab. & Heine, Mus. Hein.* iv. p. 59 (1862).
Rhinortha fasciolata, "*Reichb.* ♀ *in Mus. Dresd.*," *Cab. & Heine, t. c.* p. 60.
Anadænus ruficauda, *Peale, U.S. Expl. Exp.* p. 142, pl. 39. fig. 2; *Hartl. Wiegm. Arch. Nat.* xviii. p. 108 (1852).

*Adult male.* Upper half of the head and back of the neck chestnut; mantle and wings darker, the quills with brownish-black ends; lower back, upper tail-coverts, and tail dusky black, with numerous narrow paler bars; tail-feathers with rather broad white ends; a narrow black eyebrow; bare skin round the eye smooth and of a bluish-green colour; throat and front of the chest deep

rufous-buff, brighter than the crown, passing into dusky brownish black on the remainder of the body and under tail-coverts; under surface of the wings similar to the upperside: "bill apple-green; legs dark plumbeous, claws black" (*Davison*). Total length 12·5 inches, culmen 1·2, wing 4·5, tail 7, tarsus 1.

*Adult female.* Upper half of the head and back of the neck pearl-grey; back, wings, and tail chestnut; the quills with brownish-black ends; tail-feathers with white ends and broad subterminal black bars; throat and front of the chest greyish white, passing into rufous-buff shaded with chestnut, and then into dusky rufous on the abdomen and under tail-coverts; under surface of the wing similar to above: "bill apple-green, skin round the eye bluish green; legs dark slate; iris brown" (*Wardlaw Ramsay*).

I have followed Mr. Davison in his determination of the sexes, as I believe the sexes indicated on some of the labels of other collectors to be incorrect.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Lemyne, Tenasserim, March 28 (*W. Davison*). | Hume Coll. |
| *b*. ♀ ad. sk. | Tavoy, April 16 (*W. Davison*). | Hume Coll. |
| *c*. ♂ ad. sk. | Thayetchoung, June 5 (*W. Davison*). | Hume Coll. |
| *d*. ♀ ad. sk. | Tenasserim Town, Nov. 26 (*W. Davison*). | Hume Coll. |
| *e*, *f*. ♂ ad. sk. | Palaw-ton-ton, Dec. 29 (*W. Davison*). | Hume Coll. |
| *g*–*n*. ♂ ♀ ad. sk. | Bankasoon, Feb., April, May, June (*W. Davison*). | Hume Coll. |
| *o*, *p*. ♂ ad. sk. | Malewoon, Jan. | Oates Coll. |
| *q*, *r*. ♂ ♀ ad. sk. | Penang (*Dr. Cantor*). | India Museum. |
| *s*, *t*, *u*. ♂ ad. sk. | Penang. | Hume Coll. |
| *v*. ♂ ad. sk. | Wellesley Province, Dec. (*F. Stoliczka*). | Hume Coll. |
| *w*–*c'*. ♂ ad.; *d'*–*m'*. ♀ ad. sk. | Klang, Jan. to April, July (*W. Davison*). | Hume Coll. |
| *n'*–*s'*. ♂ ad.; *t'*–*w'*. ♀ ad. sk. | Malacca, August. | Tweeddale Coll. |
| *x'*–*q''*. ♂ ♀ ad. sk. | Malacca, July to Sept., Jan. (*W. Davison*). | Hume Coll. |
| *r''*–*u''*. ♂ ad.; *v''*. ♀ ad. sk. | Pulo Seban, Oct. (*W. Davison*). | Hume Coll. |
| *w''*. ♂ ad.; *x''*, *y''*. ♀ ad. sk. | Chohong, Oct. (*W. Davison*). | Hume Coll. |
| *z''*. ♂ ad.; *a*$^3$, *b*$^3$. ♀ ad. sk. | Kurroo, Nov. (*W. Davison*). | Hume Coll. |
| *c*$^3$–*g*$^3$. ♂ ad.; *h*$^3$–*l*$^3$. ♀ ad. sk. | Nealys (*W. Davison*). | Hume Coll. |
| *m*$^3$, *n*$^3$. ♂ ad.; *o*$^3$. ♀ ad. sk. | Johore, Aug. (*W. Davison*). | Hume Coll. |
| *p*$^3$, *q*$^3$. ♂ ♀ ad.; *r*$^3$. Juv. sk. | Singapore. | Seebohm Coll. |
| *s*$^3$ *b*$^4$. ♂ ♀ ad. et imm. sk. | Sumatra, Sept., Oct. (*C. Bock & A. R. Wallace*). | Tweeddale Coll. |

| | | |
|---|---|---|
| $e^1$–$e^4$. ♀ ad. sk. | Lampong, S.E. Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| $f^1$, $g^1$. Ad. sk. | Borneo. | RajahBrookeColl. |
| $h^1$, $i^1$. ♂ ♀ ad. sk. | Labuan (*Sir Hugh Low*). | R. B. Sharpe, Esq. [P.]. |
| $k^1$, $l^1$. ♂ ad.; $m^1$, $n^1$. ♀ ad. sk. | Lumbidan (*H. Low*). | Seebohm Coll. |
| $o^1$. ♂ ad.; $p^1$, $q^1$. ♀ ad. sk. | Sarawak (*H. Everett*). | Seeboom Coll. |
| $r^1$. ♀ ad. sk. | Marup, Sarawak (*H. Everett*). | Seebohm Coll. |
| $s^1$, $t^1$, $u^1$. Ad. sk. | Banjarmassing (*J. Motley*). | Tweeddale Coll. |

## 26. PHŒNICOPHAËS.

| | Type. |
|---|---|
| Phœnicophaus, *Vieill. Analyse*, pp. 27, 70 (1816). | P. pyrrhocephalus. |
| Melias, *Gloger in Froriep's Notizen*, xvi. p. 278 (1827) ..... | P. pyrrhocephalus. |
| Alectorops, *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 356 ..... | P. pyrrhocephalus. |

*Range.* Confined to Ceylon.

### 1. Phœnicophaës pyrrhocephalus.

Cuculus pyrrhocephalus, *Forst. Ind. Zool.* p. 16, pl. 6 (1781); *Gm. Syst. Nat.* i. p. 417 (1788); *Lath. Ind. Orn.* i. p. 222 (1790); *Wald. Ibis*, 1869, p. 337.

Le Malkoha, *Levaill. Ois. Afr.* v. p. 90, pl. 224 (1806); *Sundev. Krit. Framst. Levaill.* p. 49 (1857).

Phœnicophæus pyrrhocephalus, *Steph. Gen. Zool.* ix. p. 59 (1815); *Vieill. N. Dict.* xviii. p. 461 (1816); *id. Enc. Méth.* p. 1340 (1823); *id. Gal. Ois.* pl. 37 (1825); *Blyth, J. A. S. Beng.* xi. p. 927 (1842), xiv. p. 199 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 75 (1849); *Layard, Ann. & Mag. Nat. Hist.* 1854, xiii. p. 453; *Cab. & Heine, Mus. Hein.* iv. p. 68 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 53 (1864); *Gray, Hand-l. B.* ii. p. 205, no. 8865 (1870); *Holdsworth, P. Z. S.* 1872, p. 433; *Wald. Trans. Z. S.* viii. p. 52, fig. 8, head (1872); *Sharpe, P. Z. S.* 1873, p. 605, fig. 11; *Hume, op. cit.* viii. p. 89 (1879); *Legge, B. Ceylon*, p. 255, pl. 12 (1880); *Parker, Ibis*, 1886, p. 184.

Phœnicophæus leucogaster, *Steph. Gen. Zool.* ix. p. 60 (1815); *Vieill. N. Dict.* xviii. p. 461 (1816).

Melias pyrrhocephalus, *Less. Traité*, p. 131 (1831).

Phœnicophaus ceylonensis, *Licht. in Mus. Berol.*; *Cab. & Heine, Mus. Hein.* iv. p. 68 (1862).

*Adult male.* Forehead and entire sides of head red, denuded of true feathers, but rugose especially over the eye and towards the bill; crown and back and sides of neck black streaked with white terminal edges to the feathers, which are of peculiar form, as they end in a fork, the end portion of their shafts being hair-like and denuded of webs; back, wings, and tail deep glossy green, partially shaded with violet-blue on the quills; tail-feathers with broad white ends; chin, lores, and cheeks white, with black shaft-stripes

to the feathers; throat black, the feathers on the lower portion with narrow white terminal edges; all the feathers of the head and neck of the same peculiar form; breast and under tail-coverts white, with the flanks and thighs mottled with dusky black; under surface of the wings glossy blue-black: "iris brown; bill apple-green, paler at the tip, and the lower mandible lighter than the upper; legs and feet bluish slate; claws brownish horn" (*W. V. Legge*). Total length 18·2 inches, culmen 1·5, wing 5·8, tail 11·2, tarsus 1·4.

*Adult female.* Similar in plumage to the male: "iris white" (*W. V. Legge*). Total length 17·5 inches, culmen 1·45, wing 5·7, tail 11·7, tarsus 1·4.

*Hab.* Ceylon.

| | | |
|---|---|---|
| *a.* Ad. sk. | Ceylon. | Purchased. |
| *b, c, d.* Ad. et imm. sk. | Ceylon, Jan., Aug. (*Legge*). | Seebohm Coll. |
| *e–q.* ♂ ♀ ad. sk. | Ratnapura, Jan. to March (*H. Nevill & S. Chapman*). | Tweeddale Coll. |
| *r, s.* ♂ ad. sk. | Ratnapura, Dec. (*Hart*). | Hume Coll. |
| *t.* ♂ ad. sk. | Balongoma, April (*S. Chapman*). | Tweeddale Coll. |
| *u, v.* ♂ ad. sk. | Dambookke, July (*S. Chapman*). | Tweeddale Coll. |
| *w.* ♀ ad. sk. | Friars Wood Forests, Ceylon, Oct. (*W. V. Legge*). | Hume Coll. |
| *x, y.* ♂ ♀ ad. sk. | Baddegama, Ceylon, Dec. (*W. V. Legge*). | Seebohm Coll. |

## 27. RHAMPHOCOCCYX.

| | Type. |
|---|---|
| Rhamphococcyx, *Cab. & Heine, Mus. Hein.* iv. p. 65 (1862) ..... | R. calorhynchus. |

*Range.* Confined to Celebes.

### 1. Rhamphococcyx calorhynchus.

Phœnicophaus calorhynchus, *Temm. Pl. Col.* pl. 349 (1825); *Less. Man. Orn.* ii. p. 128 (1828); *S. Müll. Verh. Nat. Ges. Land- en Volk.* p. 234, note (1839–44); *Schl. Mus. Pays-Bas*, Cuculi, p. 48 (1864); *Finsch, Neu-Guin.* p. 159 (1865); *Wallace, Malay Archip.* ii. p. 340 (1869); *Gray, Hand-l. B.* ii. p. 205, no. 8866 (1870); *Wald. Trans. Z. S.* viii. pp. 52, 53, fig. 5 (1874); *Lenz, J. f. O.* 1877, p. 371; *Meyer, Ibis*, 1879, p. 67; *Brügg. Abhandl. nat. Ver. Brem.* v. p. 57 (1882); *Guillemard, P. Z. S.* 1885, p. 549.

Melias calorhynchus, *Less. Traité*, p. 132 (1831).

Zanclostomus calorhynchus, *Blyth, J. A. S. Beng.* xi. p. 1098 (1842).

Phœnicophaus melanogaster (*nec Vieill.*), *Blyth, J. A. S. Beng.* xiv. p. 199 (1845); *id. Cat. B. Mus. As. Soc.* p. 75 (1849).

Phœnicophaus callirhynchus, *Bp. Consp.* i. p. 98 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 356.

Rhamphococcyx calorhynchus, *Cab. & Heine, Mus. Hein.* iv. p. 65 (1862); *Sharpe, P. Z. S.* 1873, p. 603, fig. 12 (head); *Salvad. Ann. Mus. Civ. Gen.* vii. p. 649 (1873); *Cab. & Reichen. J. f. O.* 1876, p. 324; *Salvad. P. Z. S.* 1877, p. 324; *id. Orn. Papuasia*, i. p. 392 (1880); *Blasius, Zeitschr. ges. Orn.* ii. p. 262 (1885).

*Adult male.* Forehead and crown leaden grey, as well as a smooth bare patch on the side of the head; neck and mantle rich chestnut; lower back slaty black; remainder of the wings, upper tail-coverts, and tail blue-black, with a strong violet gloss; throat and front half of the chest chestnut; remainder of the body and the under wing-coverts slaty black; under surface of the quills violet-black; upper mandible with a broad subterminal portion black; a triangular basal portion at the gape including the nostrils red, like the whole of the lower mandible; legs and claws black. Total length 21·1 inches, culmen 1·8, wing 6·8, tail 13, tarsus 1·5.

*Adult female.* Similar in plumage to the male. Total length 19·1 inches, culmen 1·85, wing 6·9, tail 12, tarsus 1·6.

*Hab.* Celebes.

| | | |
|---|---|---|
| *a.* Ad. st. | Celebes. | Purchased. |
| *b–h.* Ad. sk. | Celebes. | Seebohm Coll. |
| *i, k, l.* ♂ ad. sk. | Menado, N. Celebes. | Wallace Coll. |
| *m–q.* Ad. sk. | Menado. | Hume Coll. |
| *r, s, t.* ♂ ad. sk. | Macassar. | Wallace Coll. |
| *u.* Skeleton. | Menado. | Purchased. |

## 28. RHINOCOCCYX.

| | Type. |
|---|---|
| Rhinococcyx, *Sharpe, P. Z. S.* 1873, p. 604, fig. 10 . . | R. curvirostris. |

*Range.* Confined to the island of Java.

### 1. Rhinococcyx curvirostris.

Cuculus curvirostris, *Shaw & Nodder, Nat. Misc.* pl. 905.

Malcoha rouverdin, *Levaill. Ois. Afr.* v. p. 92, pl. 225 (1806); *Sundev. Krit. Framst. Levaill.* p. 49 (1857).

Phœnicophæus tricolor, *Steph. Gen. Zool.* ix. p. 61, pl. 14 (1815); *Eyton, P. Z. S.* 1839, p. 105.

Phœnicophaus viridis, *Vieill. N. Dict.* xviii. p. 462 (1818); *id. Enc. Méth.* p. 1340 (1823); *Less. Man. Orn.* ii. p. 127 (1828); *Swains. Class. B.* ii. p. 324, fig. 286 *c* (1837); *Hartl. Verz. Mus. Bremen*, 1844, p. 95.

Phœnicophaus melanognathus, *Horsf. Trans. Linn. Soc.* xiii. p. 178 (1822); *Steph. Gen. Zool.* xiv. p. 216 (1826); *Vig. Mem. Raffl.* p. 670 (1830); *Strickl. J. A. S. Beng.* xiii. p. 391, note (1844); *Blyth, op. cit.* xiv. p. 199 (1845); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 688 (1856–58).

Phœnicophaus viridirufus, *S. Müll. Verh. Nat. Ges. Land- en Volk.* p. 234, note (1839–44); *Bp. Consp.* i. p. 98 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 357.

Phœnicophaus curvirostris, *Gray, Gen. B.* ii. p. 459 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 75 (1849); *Moore, P. Z. S.* 1859, p. 458.

Rhamphococcyx curvirostris, *Cab. & Heine, Mus. Hein.* iv. p. 66 (1862).

Rhinococcyx curvirostris, *Sharpe, P. Z. S.* 1873, p. 604; *Nicholson, Ibis*, 1881, p. 140.

*Adult.* Feathers of the upper half of the head leaden grey, partially glossed with green and with elongated black hair-like shafts; back, wings, and basal two-thirds of tail brilliant deep glossy green, shaded with violet and blue on the quills; terminal third of tail chocolate-brown; round the eye a large patch of rough skin without feathers, red, margined below by a broad loral band of grey feathers; chin pale grey; throat, sides of neck, and chest chestnut, darker on the latter part and passing into chocolate-brown on the abdomen and under tail-coverts; flanks and thighs dusky black glossed with green; under surface of the wings glossy blue-black, with a green shade on the coverts; upper mandible pale green, with a small portion between the nostril and gape black; lower mandible black, with an orange mark along the keel. Total length 19·5 inches, culmen 1·8, wing 6·7, tail 10·5, tarsus 1·65.

*Hab.* Java.

| | | |
|---|---|---|
| *a.* Ad. sk. | Java. | Earl of Derby [P.]. |
| *b, c, d.* Ad. sk. | Java (*Horsfield*). | India Museum. |
| *e, f, g.* Ad. sk. | Java. | Seebohm Coll. |
| *h, i, k.* Ad. sk. | Java (*A. R. Wallace*). | Tweeddale Coll. |
| *l, m, n.* Skeletons. | Java. | Purchased. |

## 29. UROCOCCYX *.

*Range.* From Southern Tenasserim down the Malayan Peninsula to Sumatra and Borneo.

*Key to the Species.*

*a.* Throat, under tail-coverts, and portion of tail bright rufous ..... *erythrognathus*, p. 398.

*b.* Throat chocolate-brown; under tail-coverts and entire tail glossy green ..... *æneicauda*, p. 400.

### 1. Urococcyx erythrognathus.

Cuculus melanognathus (*nec Horsf.*), *Raffl. Trans. Linn. Soc.* xiii. p. 287 (1822).

Phœnicophæus viridis (*nec Vieill.*), *Blyth, J. A. S. Beng.* xi. p. 927 (1842), xiv. p. 199 (1845).

Phœnicophæus erythrognathus, *Hartl. Verz. Mus. Brem.* 1844, p. 95; *Bp. Consp.* i. p. 98 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 357; *Sel. P. Z. S.* 1863, p. 208; *Schl. Mus. Pays-Bas*, Cuculi, p. 49 (1864); *Gray, Hand-l. B.* ii. p. 206, no. 8868 (1870); *Hume, Str. F.* ii. p. 472 (1874); *Blyth & Wald. Cat. Mamm. & B. Burma*, p. 81 (1875); *Brügg. Abhandl. nat. Ver. Brem.* v. p. 455 (1877); *Hume, Str. F.*

* Type, *U. erythrognathus.*

vi. pp. 165, 506 (1878); *Snelleman in Veth's Midden-Sumatra, Vog.* p. 34 (1884).

Phœnicophæus curvirostris (*nec Shaw*), *Blyth, Cat. B. Mus. As. Soc.* p. 75 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 687 (1856–58).

Rhamphococcyx erythrognathus, *Cab. & Heine, Mus. Hein.* iv. p. 67 (1862); *Salvad. Ucc. di Borneo*, p. 74 (1874); *id. Ann. Mus. Civ. Gen.* xiv. p. 186 (1879); *Hume, Str. F.* viii. pp. 54, 89 (1879); *Kelham, Ibis*, 1881, p. 393; *Blasius, J. f. O.* 1882, p. 246; *A. Müll. t. c.* p. 409; *Nicholson, Ibis*, 1883, p. 242; *Oates, Handb. B. Brit. Burmah*, ii. p. 124; *Büttik. Notes Leyden Mus.* 1884, p. 31; *Guillemard, P. Z. S.* 1885, p. 406; *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 174.

Rhopodytes erythrognathus, *Sharpe, P. Z. S.* 1875, p. 104; *id. Ibis*, 1877, p. 8; *Tweedd. P. Z. S.* 1877, p. 287; *Sharpe, P. Z. S.* 1879, pp. 246, 328; *id. Ibis*, 1879, p. 245; *id. P. Z. S.* 1881, p. 793; *id. Ibis*, 1890, p. 12.

*Adult male.* Forehead, crown, and back of neck leaden grey, the latter glossed with olive; back, wings, and basal two-thirds of tail deep metallic green, glossed with blue on the quills; a large rough bare patch round the eye red, margined beneath by a grey loral band: chin grey; throat and chest chestnut; flanks, abdomen, and thighs dusky black, partially washed with glossy green; under tail-coverts chocolate-brown; under surface of wings glossy blue-black, partially washed with green on the coverts: "bill pale green, with a large portion of the lower mandible and a patch just below the nostril dull red; iris bright yellow; legs and feet bluish green" (*W. Davison*). Total length 18·5 inches, culmen 1·6, wing 6·8, tail 10, tarsus 1·45.

*Adult female.* Similar in plumage to the male. Total length 18·2 inches, culmen 1·7, wing 6·4, tail 10·7, tarsus 1·55.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Thoungyah, Tenasserim, Oct. (*J. Darling*). | Hume Coll. |
| *b.* ♂ ad. sk. | Yea, April (*W. Davison*). | Hume Coll. |
| *c.* ♀ ad. sk. | Mergui Island, Dec. (*W. Davison*). | Hume Coll. |
| *d, e.* ♂ ♀ ad. sk. | Laynah, May (*W. Davison*). | Hume Coll. |
| *f.* ♀ ad. sk. | Bahonee, Feb. (*W. Davison*). | Hume Coll. |
| *g.* ♀ ad. sk. | Palaw-ton-ton, Dec. (*W. Davison*). | Hume Coll. |
| *h.* ♂ ad. sk. | Foot of Mt. Nwalabo, April (*W. Davison*). | Hume Coll. |
| *i–u.* ♂ ♀ ad. sk. | Bankasoon, Dec., Feb., April, June (*W. Davison*). | Hume Coll. |
| *v, w, x.* ♂ ♀ ad. sk. | Malewoon, Feb., March (*W. Davison*). | Hume Coll. |
| *y–k'.* ♂ ♀ ad. et imm. sk. | Kossoum, April, May, July (*J. Darling*). | Hume Coll. |
| *l'–s'.* ♂ ♀ ad. sk. | Klang, Salangore, Feb. to April, Oct. (*W. Davison*). | Hume Coll. |
| *t'.* Ad. sk. | Malacca (*Dr. Cantor*). | India Museum. |
| *u', v', w'.* Ad.; *x'.* Juv. sk. | Malacca, May, Aug. (*Dr. Maingay*). | Tweeddale Coll. |

| | | |
|---|---|---|
| *y'*–*f''*. Ad. et imm. sk. | Malacca, July, Aug. (*W. Davison*). | Hume Coll. |
| *g''*, *h''*. ♂ ad.; *i''*, *k''*. ♀ ad. sk. | Pulo Seban, Oct. (*W. Davison*). | Hume Coll. |
| *l''*–*p''*. ♂ ad.; *q''*, *r''*. ♀ ad. sk. | Pulo Seban, Nov. (*W. Davison*). | Hume Coll. |
| *s''*, *t''*. ♂ ad.; *u''*, *v''*. ♀ ad. sk. | Kuroo, Nov. (*W. Davison*). | Hume Coll. |
| *w''*–*b*³. ♂ ♀ ad. et imm. sk. | Nealys, Oct. (*W. Davison*). | Hume Coll. |
| *c*³, *h*³. ♂ ♀ ad. et imm. sk. | Johore, March, Aug. (*W. Davison*). | Hume Coll. |
| *i*³–*t*³. ♂ ♀ ad. et imm. sk. | Sumatra, Sept., Oct. (*C. Bock*). | Tweeddale Coll. |
| *u*³. Ad. sk. | Lampong, Sumatra (*E. C. Buxton*). | Tweeddale Coll. |
| *v*³. Ad. sk. | [Java.] | Seebohm Coll. |
| *w*³, *x*³, *y*³. Ad. sk. | Sarawak (*A. Everett*). | Seebohm Coll. |
| *z*³. Ad. sk. | Lumbidan (*Sir Hugh Low*). | Seebohm Coll. |
| *a*⁴, *b*⁴, *c*⁴. Ad. sk. | Labuan. | Sir Hugh Low [C.]. |
| *d*⁴. Ad. sk. | Banjarmassing (*J. Motley*). | Tweeddale Coll. |

### 2. Urococcyx æneicauda.

Phœnicophæus æneicaudus, *J. & E. Verr. Rev. et Mag. Zool.* 1855, p. 357; *Gray, Hand-l. B.* ii. p. 206, no. 8869 (1870); *Wald. Ibis*, 1871, p. 162; *id. Trans. Z. S.* viii. p. 52 (1872).

Rhamphococcyx æneicaudus, *Cab. & Heine, Mus. Hein.* iv. p. 66, note (1862).

*Adult* (type of species). Similar to *U. erythrognathus*, but with the entire tail glossy green; the grey loral band below the bare ophthalmic patch broader and darker; throat darker and more chocolate-brown, which colour barely extends on to the chest; remainder of the body dusky black, strongly glossed with green; under tail-coverts glossy green; bill uniform pale green. Total length 17·4 inches, culmen 1·7, wing 6·6, tail 10, tarsus 1·5.

*Hab.* Unknown.

| | | |
|---|---|---|
| *a*. Ad. sk. | [Ceylon.] | Purchased. |

## 30. DRYOCOCCYX.

Type.

Dryococcyx, *Sharpe, Trans. Linn. Soc.* (2) *Zool.* i. p. 321, fig. 1 (1877) ..... D. harringtoni.

*Range.* Confined to the island of Palawan.

### 1. Dryococcyx harringtoni.

Dryococcyx harringtoni, *Sharpe, Trans. Linn. Soc.* (2) *Zool.* i. pp. 321, 351 (1877); *id. Ibis*, 1888, p. 198; *Whitehead, Ibis*, 1890, p. 46.

Phœnicophaes harringtoni, *Wald. P. Z. S.* 1878, p. 613; *Wardlaw Ramsay, App. Tweedd. Orn. Works*, p. 656 (1881).

*Adult female.* Forehead and crown leaden grey, partially glossed with green, and with elongated hair-like shafts to the feathers; back, wings, and basal two-thirds of tail glossy metallic green, slightly shaded with blue on the quills; chin and a few of the loral feathers grey; throat, entire breast, thighs, and under tail-coverts uniform chestnut; under surface of the wings blue-black, mottled with rufous on the wing-coverts: "iris light brown, orbital and loral space deep crimson; bill light green tinged with olive; feet and legs lead-grey; nails dark grey" (*A. Everett*). Total length 17 inches, culmen 1·75, wing 6·3, tail 11, tarsus 1·6.

*Hab.* Palawan.

| | | |
|---|---|---|
| *a*, *b*. ♂ ad.; *c*, *d*, *e*. ♀ ad. sk. | Puerto Princesa, Palawan, Dec., Jan. (*A. Everett*). | Tweeddale Coll. |
| *f*. Ad. sk. | Palawan. | E. Lempriere, Esq. [C.]. |

## 31. CEUTHMOCHARES.

Type.

Ceuthmochares, *Cab. & Heine, Mus. Hein.* iv. p. 60 (1862) . C. æneus.

*Range.* The whole of Africa south of about 15° N. lat.

*Key to the Species.*

*a*. Bluer: tail never entirely green.
  *a'*. Darker: wings and tail uniform violet-blue; with no shade of green on the plumage .... *flavirostris*, p. 401.
  *b'*. Paler: wings and tail bluish green; centre tail-feathers strongly shaded with green .... *æneus*, p. 402.
*b*. With no blue nor violet on the plumage; entire wings and tail glossy green ..... *australis*, p. 403.

### 1. Ceuthmochares flavirostris.

Zanclostomus flavirostris, *Swains. B. W. Afr.* ii. p. 183, pl. 19 (1837); *Gray, Hand-l. B.* ii. p. 206, no. 8875 (1870).
Zanclostomus æneus, *Hartl.* (*nec V.*), *Orn. W.-Afr.* p. 187 (pt., N. of Equator); *Sharpe, Ibis*, 1869, p. 194.
Phœnicophaës flavirostris, *Schl. Mus. Pays-Bas*, Cuculi, p. 50.
Ceuthmochares æneus, *Sharpe, P. Z. S.* 1873, p. 160 (pt.); *Ussher, Ibis*, 1874, p. 54; *Sharpe, ed. Layard's B. S. Afr.* pl. 5. fig. 2.
Phœnicophaës æneus, *Büttikofer, Notes Leyden Mus.* vii. p. 224, viii. p. 264.

*Adult.* Upper half of the head and back of the neck dark slaty grey, very slightly shaded with violet and passing gradually into deep glossy violet-blue on the back, wings, and tail, which parts are absolutely without a trace of green; on the sides of the head a bare slaty-grey ophthalmic patch extending to the bill; under surface of body dusky ash, very slightly paler on the chin, and gradually passing into dusky slate-colour on the abdomen and thighs; under tail-coverts glossy violet-blue; under surface of the wings black, slightly glossed with violet-blue, especially on the coverts: bill yellow, with a triangular basal black patch on the

culmen: iris crimson; legs black. Total length 12·8 inches, culmen 1·1, wing 4·5, tail 7·6, tarsus 1·1.

*Hab.* West Africa, from Senegal to the Gold Coast.

| | | |
|---|---|---|
| *a–d.* Ad. sk. | W. coast of Africa. | Purchased. |
| *e, f.* Ad. sk. | Sierra Leone. | Colonel Sabine [P.]. |
| *g, h.* Ad. sk. | Ashantee. | Gould Coll. |
| *i, k.* Ad. sk. | Gold Coast. | Shelley Coll. |
| *l–t.* Ad. sk. | Fantee (*H. T. Ussher & F. Blissett*). | Sharpe Coll. |
| *u.* Ad. sk. | Cape Coast Castle. | Tweeddale Coll. |

## 2. Ceuthmochares æneus.

Coucou gris bronzé, *Levaill. Ois. Afr.* v. p. 60, pl. 215; *Sundev. Krit. Framst. om Levaill.* p. 48 (1857).

Cuculus aëreus, *Vieill. Nouv. Dict.* viii. p. 229 (1817); *id. Enc. Méth.* p. 1333 (1823).

Cuculus aëratus, *Steph. Gen. Zool.* xiv. p. 210 (1826).

Zanclostomus flavirostris (*nec Swains.*), *Fraser, P. Z. S.* 1843, p. 52; *Sharpe, Cat. Afr. B.* p. 14 (1871, pt.).

Zanclostomus aëreus, *Hartl. J. f. O.* 1854, p. 201; *id. Orn. W.-Afr.* p. 275 (1857); *Cass. Pr. Ac. Philad.* 1859, p. 142; *Gray, Hand-l. B.* ii. p. 206, no. 8874 (1870); *Reichen. J. f. O.* 1875, p. 2, 1877, p. 15.

Zanclostomus æneus, *Hartl. & Monteiro, P. Z. S.* 1860, p. 112; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 312 (1876); *Bocage, Orn. Angola*, p. 147 (1877).

Ceuthmochares aëreus, *Cab. & Heine, Mus. Hein.* iv. p. 60 (1862); *Sharpe, P. Z. S.* 1873, pp. 607, 610, fig. 15 (pt.).

Ceuthmochares intermedius, *Sharpe, Linn. Soc. Journ.* xvii. p. 432 (1884).

*Adult.* Decidedly paler than the last species; back and wings greyer, with a greenish-blue gloss; the tail, which is violet on the lateral feathers, passes into brilliant bluish green on the centre ones: beneath pale ashy grey, fading into white towards the chin and into dusky grey on the flanks, thighs, and abdomen; under tail-coverts bright glossy green: the black patch at the base of the culmen is rather smaller and more irregularly shaped than in *C. flavirostris*: iris crimson; legs black. Total length 12·2 inches, culmen 1·15, wing 4·5, tail 7·1, tarsus 1·1.

Levaillant describes *Le Coucou gris bronzé* from Malimbé as having the tail glossed with green and blue above and being bluer beneath, and mentions the green gloss about the under tail-coverts, thus pointing out the most prominent characters by which this species is distinguished from its allies.

*Hab.* Angola to the Cameroons, and through the Congo Basin to the Niam-Niam Country.

| | | |
|---|---|---|
| *a.* Ad. sk. | Semmio, Niam-Niam Country, Feb. | F. Bohndorff [C.]. (Type of *C. intermedius.*) |
| *b, c.* Ad. sk. | Cameroons Mountains, Jan. (*Crossley*). | Sharpe Coll. |

| | | |
|---|---|---|
| *d.* Ad. sk. | Fernando Po. | L. Fraser [C.]. |
| *e.* Ad. sk. | Muni River (*DuChaillu*). | Tweeddale Coll. |
| *f–k.* Ad. sk. | Gaboon (*Walker*). | Sharpe Coll. |
| *l, m.* Ad. sk. | Gaboon. | Shelley Coll. |
| *n.* Ad. sk. | Bembe, Angola. | Monteiro Coll. |

### 3. Ceuthmochares australis.

Zanclostomus æneus (*nec Vieill.*), *Gurney, Ibis*, 1859, p. 248; *Finsch & Hartl. Vög. Ostafr.* p. 525 (1870); *Heugl. Orn. N.O.-Afr.* pp. 791, clxiv (1871–73); *Böhm, J. f. O.* 1883, p. 165.
Phœnicophaës aëreus, *Schl. Mus. Pays-Bas*, Cuculi, p. 50 (1864).
Ceuthmochares australis, *Sharpe, P. Z. S.* 1873, p. 609; *id. ed. Layard's B. S. Afr.* p. 161, pl. 5. fig. 1; *Shelley, Ibis*, 1875, p. 82; *Cab. J. f. O.* 1878, p. 238; *Shelley, P. Z. S.* 1881, p. 595.
Zanclostomus australis, *Hartl. Vög. Madag.* p. 236 (1877); *Fisch. & Reichen. J. f. O.* 1879, p. 342; *Fisch. J. f. O.* 1885, p. 123.

*Adult.* Crown and back ashy olive; wings glossy olive-green; upper tail-coverts and tail very brilliant yellowish green; sides of the head grey, with a bare slaty-grey ophthalmic patch extending to the bill; beneath ashy, nearly white towards the chin, and tinted with olive-yellow on the sides and base of the throat and on the chest; lower breast, flanks, and thighs dusky grey, strongly glossed on the abdomen with green; under tail-coverts glossy green; under wing-coverts dusky grey; quills dusky brown, with a slight olive gloss: bill yellow, with a triangular black patch at the base of the culmen; iris crimson; legs black. Total length 14 inches, culmen 1·15, wing 5, tail 7·8, tarsus 1·2.

*Immature.* Has some slight traces of rufous edges on the greater wing-coverts; throat slightly more shaded with olive-yellow; under tail-coverts dusky; under wing-coverts mottled with rufous.

*Hab.* East Africa, from Usaramo to the Natal Coast. A specimen has been recorded from the Bay of Bombatoc in Madagascar (Bojer); but no mention is made of it in Grandidier's great work on the Zoology of that island, and doubtless some mistake as to the origin of this specimen has occurred.

| | | |
|---|---|---|
| *a.* Ad. sk. | South Africa. | Seebohm Coll. |
| *b, c, d, e.* Ad. sk. | Natal (*Ayres*). | Sharpe Coll. |
| *f, g, h.* Ad. sk. | Durban, Oct., April. | Shelley Coll. |
| *i.* Ad. sk. | Zambesi (*Sir J. Kirk*). | Livingtone Expedition. |
| *k.* Ad. sk. | Lamu (*Sir J. Kirk*). | Shelley Coll. |

## 32. DASYLOPHUS.

Type.
Dasylophus, *Swains. Class. B.* ii. p. 324 (1837) .... D. superciliosus.

*Range.* Confined to the island of Luzon in the Philippines.

### 1. Dasylophus superciliosus.

Phœnicophaus superciliosus, *Cuv. Dict. Hist. Nat.* x. p. 55 (1826); *Less. Man. Orn.* ii. p. 127 (1828); *Blyth, J. A. S. Beng.* xi. p. 925 (1842); *Schl. Mus. Pays-Bas*, Cuculi, p. 51 (1864).

Melias superciliosus, *Less. Traité*, p. 133 (1831).
Malcoha superciliosus, *Guér. Icon. Règne An.* i. pl. 33. fig. 1 (1829–38).
Dasylophus superciliosus, *Swains. Class. B.* ii. p. 324, pl. 286. fig. *a* (1837); *Gray, Gen. B.* ii. p. 456, pl. 116 (1845); *Blyth, J. A. S. Beng.* xiv. p. 199 (1845); *id. Cat. B. Mus. As. Soc.* p. 75 (1849); *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 69 (1862); *Gray, Hand-l. B.* ii. p. 206, no. 8870 (1870); *Sharpe, P. Z. S.* 1873, p. 603, fig. 7, head; *Wald. Trans. Z. S.* ix. p. 162 (1875); *Gould, B. Asia*, vi. pl. 44 (1876); *Tweedd. P. Z. S.* 1877, p. 691; *Sharpe, Trans. Linn. Soc.* (2) *Zool.* i. p. 321 (1877); *Kütter, J. f. O.* 1882, p. 175.
Phœnicophæus ornatus, *Blyth, J. A. S. Beng.* xi. p. 925 (1842).

*Adult male.* General plumage above glossy blackish green, with a partial blue shade; a very distinct eyebrow of bright crimson elongated tufts of hair-like feathers extending from the nostrils to behind the bare orbital patch, which latter is bright orange; the base of many of the red tufts white and forming a narrow partial eyebrow next to the bare skin; tail with broad white ends to the feathers; underparts dusky olive, inclining to black towards the chin, thighs, and under tail-coverts, the latter partially glossed with green: "iris pure chrome-yellow; orbital skin and base of bill fiery orange; bill pale green; legs greenish chrome; claws dark grey" (*A. H. Everett*). Total length 15·5 inches, culmen 1·5, wing 6·2, tail 9·5, tarsus 1·5.

*Adult female.* Similar in plumage to the male. Total length 15·3 inches, culmen 1·5, wing 6·1, tail 9·1, tarsus 1·45.

*Hab.* Island of Luzon.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | Philippines. | Gould Coll. |
| *d*. Ad. st.; *e*. Ad. sk. | Manila. | Hugh Cuming, Esq. [C.]. |
| *f*, *g*. ♂ ♀ ad. sk. | Luzon, Jan., Feb. (*A. B. Meyer*). | Tweeddale Coll. |
| *h*, *i*. ♂ ♀ ad. sk. | Monte Alban, Feb. (*A. Everett*). | Tweeddale Coll. |

## 33. LEPIDOGRAMMUS.

| | Type. |
|---|---|
| Lepidogrammus, *Reichenb. Av. Syst.* pl. 47 (1849) .... | L. cumingi. |

*Range.* Confined to the island of Luzon in the Philippines.

### 1. Lepidogrammus cumingi.

Phœnicophaus cumingi, *Fraser, P. Z. S.* 1839, p. 112; *Blyth, J. A. S. Beng.* xi. p. 925 (1845); *Fraser, Zool. Typ.* pl. 53 (1848-49); *Schl. Mus. Pays-Bays*, Cuculi, p. 51 (1864).
Phœnicophaus barrotii, *Eydoux & Souleyet, Voy. Bonite, Zool.* p. 89, *Atlas*, pl. 6 (1841).
Dasylophus cumingii, *Gray, Gen. B.* ii. p. 459 (1845); *Blyth, J. A. S. Beng.* xiv. p. 199 (1845); *Gray, Hand-l. B.* ii. p. 206, no. 8871 (1870).

Lepidogrammus cumingi, *Bp. Consp. Vol. Zygod.* p. 5 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 70 (1862); *Sharpe, P. Z. S.* 1873, p. 602, fig. 6 head; *Wald. Trans. Z. S.* ix. p. 163 (1875); *Gould, B. Asia*, vii. pl. 45 (1876); *Tweedd. P. Z. S.* 1877, p. 691.
Cuculus decorus, "*Gravenhorst*," *Bp. Consp. Vol. Zygod.* p. 5 (1854).

*Adult* (type of species). Upper half and sides of the head grey, passing into white on the sides of the forehead and throat; all the feathers of the forehead and a broad central band through the crown to the nape ornamented with glossy black horny appendages, and having the subterminal portion of each feather white; a broad band of similarly horny-tipped feathers extending down the centre of the throat; back of the neck deep chestnut; remainder of the upper parts deep glossy green, inclining to purplish blue on the quills and tail; the feathers of the latter with white ends; at the base of the neck a broad golden-rufous semicircle bordering the white throat and blending into the deep chestnut of the sides of the neck and chest: abdomen, thighs, and under tail-coverts brownish black, washed with a dark-green gloss on the outside of the thigh-coverts; under wing-coverts deep chestnut like the breast; quills uniform glossy black; eyelashes strong and black: "orbital patch and iris red; bill horn-yellow; legs grey" (*A. H. Everett*). Total length 17 inches, culmen 1·5, wing 6·1, tail 9, tarsus 1·6.

*Nestling*. Upper half and sides of the head, wings, and body both above and below dark reddish brown; the quills and base of the tail glossy greenish black, with which colour other portions of the wings are mottled; a broad white end to the tail; neck all round rufous, passing into rufous-grey on the chin.

*Hab.* Luzon.

| | | |
|---|---|---|
| *a*, *b*. Ad.; *c*. Pull. sk. | Philippines. | Purchased. |
| *d*, *e*. Ad. sk. | Manila (*Maitland Heriot*). | Tweeddale Coll. |
| *f*. Ad. sk. | Luzon, Jan. 14. | Hugh Cuming, Esq. [C.]. (Type of species.) |
| *g*. ♀ ad. sk. | Batan, Luzon, April (*A. B. Meyer*). | Tweeddale Coll. |
| *h*, *i*, *k*. ♂ ad. sk. | Monte Alban, Feb., March (*A. Everett*). | Tweeddale Coll. |

## 34. COUA.

| | Type. |
|---|---|
| Coua, *Cuv. Règne An.* i. p. 425 (1817) ..... | C. cærulea. |
| Serisomus, *Swains. Class. B.* ii. p. 323 (1837) ..... | C. cristata. |
| Glaucococcyx, *Cab. & Heine, Mus. Hein.* iv. p. 71 (1862) | C. cærulea. |
| Cochlothraustes, *Cab. & Heine, t. c.* p. 74..... | C. delalandii. |

*Range*. Confined to the island of Madagascar.

*Key to the Species.*

*a*. With no white ends to any of the tail-feathers.
*a'*. Throat and breast uniform.
*a''*. Entire plumage blue ..... *cærulea*, p. 406.

*b''*. Upper parts olive-green; crown tawny orange ..... *reynaudi*, p. 407.
*b'*. Upper throat and abdomen dusky olive; breast bright chestnut ..... *serriana*, p. 408.
*b*. With white ends to some of the tail-feathers.
*c'*. With a well-marked crest.
*c''*. Crest-feathers longer, narrower, and extending over the whole crown; front of the chest with a rufous shade.
*a'''*. White end to tail narrower, about 1·2 inches; under tail-coverts paler ..... *cristata*, p. 409.
*b'''*. White end to tail broader, about 2 inches; under tail-coverts rufous ..... *pyropygia*, p. 410.
*d''*. Crest-feathers broader, and confined to the front half of the crown; underparts white, shaded with grey..... *verreauxi*, p. 410.
*d'*. With no crest.
*e''*. Upper parts not blue.
*c'''*. Crown rufous ..... *ruficeps*, p. 410.
*d'''*. Crown more or less olive.
*a*⁴. Underparts paler; abdomen and under tail-coverts buffish.
*a*⁵. Throat white. Larger; wing 6·2 .. *olivaceiceps*, p. 411.
*b*⁵. Throat yellowish. Smaller; wing 4·9..... *cursor*, p. 411.
*b*⁴. Underparts darker; abdomen and under tail-coverts brown.
*c*⁵. Smaller; wing 5·9 inches. Lower chest washed with pink ..... *coquereli*, p. 412.
*d*⁵. Larger; wing 8·6 inches. Lower chest not washed with pink ..... *gigas*, p. 412.
*f''*. Upper parts dark blue; throat and chest white; abdomen rufous..... *delalandii*, p. 413.

### 1. Coua cærulea.

Le Coucou bleu de Madagascar, *Briss. Orn.* iv. p. 156, pl. 13. fig. 1 (1766); *Daub. Pl. Enl.* 295. fig. 2 (1783); *Vinson, Voy. Madag.*, App. p. 144 (1865).
Cuculus cæruleus, *Linn. Syst. Nat.* i. p. 171 (1766); *Wald. Ibis*, 1869, p. 335.
Le Tait-sou, *Montb. Hist. Nat. Ois.* vi. p. 291, pl. 18 (1779).
Blue Cuckow, *Lath. Gen. Syn. B.* i. p. 531 (1781); *id. Gen. Hist.* iii. p. 274 (1822).
Le Coua tait-sou, *Levaill. Ois. Afr.* v. p. 69, pl. 218 (1806); *Sund. Krit. Framst. om Levaill.* p. 48 (1857).
Polophilus cæruleus, *Steph. Gen. Zool.* ix. p. 56 (1815).
Cuculus (Coua) cæruleus, *Cuv. Règne An.* (1) i. p. 425 (1817).
Coccyzus cæruleus, *Vieill. Nouv. Dict.* viii. p. 278 (1817); *id. Enc. Méth.* p. 1348 (1823); *id. Gal. Ois.* i. p. 31, pl. 41 (1825); *Less. Traité*, p. 139 (1831).
Coua cærulea, *Gray, in Griff. An. Kingdom*, vii. p. 458 (1829); *id. Gen. B.* ii. p. 454 (1846); *Hartl. Ann. & Mag. Nat. Hist.* 1848, p. 390; *Bp. Consp.* i. p. 109 (1850); *Schl. Handl. Dierk.* i. p. 206 (1857); *Kollar, Sitz. Ak. Wiss. Wien*, 1858, p. 342; *Hartl. Orn. Beitrag Faun. Madag.* p. 60 (1861); *Roch & E. Newton*,

*Ibis*, 1863, p. 166; *E. Newton*, *t. c.* p. 453; *Scl. P. Z. S.* 1863, p. 164; *Schl. Mus. Pays-Bas*, Cuculi, p. 46 (1864); *A. Newton*, *P. Z. S.* 1865, p. 834; *Schl. P. Z. S.* 1866, p. 424; *Grand. Rev. et Mag. Zool.* 1867, p. 390; *Schl. & Pollen*, *Faun. Madag.*, *Ois.* p. 55 (1868); *Gray*, *Hand-l. B.* ii. p. 208, no. 8894 (1870); *Bartlett*, *P. Z. S.* 1875, p. 67; *Hartl. Vög. Madag.* p. 248 (1877); *Milne-Edw. & Grand. Ois.* i. p. 148, *Atlas*, i. pls. 48, 49 (1879).

Centropus cæruleus, *Temm. Tabl. Méth.* p. 53 (1838).

Glaucococcyx cæruleus, *Cab. & Heine*, *Mus. Hein.* iv. p. 71 (1862).

Sericosomus cæruleus, *Sharpe*, *P. Z. S.* 1873, p. 616.

*Adult.* Entire plumage uniform blue, with a violet gloss on the tail; under surface of the quills glossy blackish blue, shaded with violet: "bare skin round the eye indigo-blue; bill and legs black: iris brown" (*Grandidier*). Total length 16·5 inches, culmen 1·1, wing 7·6, tail 10·2, tarsus 2·2.

*Hab.* The woodlands of North and East Madagascar.

| | | |
|---|---|---|
| *a.* Ad. st.; *b*, *c.* Ad. sk. | Madagascar. | Purchased. |
| *d*, *e.* Ad. sk. | Madagascar (*Van Dam*). | Shelley Coll. |
| *f.* Ad. sk. | Madagascar. | G. F. Scott Elliot, Esq. [P.]. |
| *g–p.* Ad. sk. | Central Madagascar. | Seebohm Coll. |
| *q.* Ad. sk. | Mohambo (*Gerrard*). | Purchased. |
| *r*, *s.* Ad. sk. | East of Antananarivo, July (*W. Deans Cowan*). | |
| *t*, *u.* Skeletons. | Madagascar. | Rev. W. Deans Cowan [C.]. |

## 2. Coua reynaudii.

Le Couliou vert, *Sganzin*, *Mém. Soc. Mus. Hist. Nat. Strasbourg*, 1840, p. 33.

Coua reynaudii, *Pucher. Rev. Zool.* 1845, p. 51; *id. Mag. Zool.* 1845, p. 5, pl. 56; *Gray*, *Gen. B.* ii. p. 454 (1846); *Bp. Consp.* i. p. 109 (1850); *id. Consp. Vol. Zygod.* p. 120 (1854); *Kollar*, *Sitz. Ak. Wiss. Wien*, 1858, p. 342; *Hartl. Faun. Madag.* p. 60 (1861); *Schl. Ned. Tijdschr. Dierk.* 1866, p. 82; *id. P. Z. S.* 1866, p. 424; *Grand. Rev. et Mag. Zool.* 1867, p. 390; *Schl. & Pollen*, *Faun. Madag.*, *Ois.* p. 56 (1868); *Gray*, *Hand-l. B.* ii. p. 208, no. 8889 (1870); *Hartl. Vög. Madag.* p. 239 (1877); *Milne-Edw. & Grand. Hist. Madag.*, *Ois.* i. p. 141, *Atlas*, pl. 43 (1879).

Coccyzus reynaudi, *Verr. Cat. Coll. Ois. Rivoli*, p. 25 (1846).

Coua ruficeps (*nec Gray*), *Bp. Consp.* i. p. 109 (1850); *id. Consp. Vol. Zygod.* p. 120 (1854).

Sericosomus reynaudi, *Cab. & Heine*, *Mus. Hein.* iv. p. 73, note (1862); *Sharpe*, *P. Z. S.* 1873, p. 615.

Sericosomus sp., *Bartlett*, *P. Z. S.* 1879, p. 771.

*Adult.* Above glossy olive, shaded on the quills and outer tail-feathers with violet-blue; forehead and front half of the crown chestnut; bare patch round the eye blue, darkest above and in front and surrounded by a margin of black feathers; beneath dusky ashy, tinted with olive-green on the body, especially on the flanks and abdomen; lower abdomen and under tail-coverts slightly darker;

under surface of the quills uniform dark glossy brown : bill black ; irides brown ; legs slate-colour. Total length 16·1 inches, culmen 0·9, wing 6·1, tail 10, tarsus 1·8.

*Immature.* Differs from the adult in having the crown and sides of the head uniform with the back, without rufous or black feathers ; most of the feathers of the wing tipped with chestnut and the underparts partially mottled with that colour.

*Hab.* The woodlands of North and North-eastern Madagascar.

| | | |
|---|---|---|
| *a, b, c.* Imm. sk. | Madagascar. | Purchased. |
| *d, e.* Ad. sk. | Central Madagascar. | Seebohm Coll. |
| *f.* Ad. sk. | Fianarantsoa, Madagascar. | Rev. W. Deans Cowan [C.]. |
| *g, h, i.* Ad. sk. | Ankafana, March (*W. Deans Cowan*). | Shelley Coll. |
| *k–s.* Ad. et imm. sk. | Ankafana, March (*W. Deans Cowan*). | Tweeddale Coll. |
| *t.* Juv. sk. | Betsileo. | Rev. G. Shaw [C.]. |
| *u.* Ad. sk. | North Madagascar, Aug. | A. Majastre [C.]. |
| *v.* Skeleton. | Madagascar. | Rev. W. Deans Cowan [C.]. |

### 3. Coua serriana.

Le Coucal ou Coua de Tintingue, *Sganz. Mém. Soc. Mus. Hist. Nat. Strasbourg*, 1840, p. 34.

Coua serriana, *Pucher. Rev. Zool.* 1845, p. 51 ; *id. Mag. Zool.* 1845, p. 3, pl. 55 ; *Gray, Gen. B.* ii. p. 454 (1846) ; *Bp. Consp.* i. p. 109 (1850) ; *Hartl. Faun. Madag.* p. 61 (1861) ; *Schl. Mus. Pays-Bas*, Cuculi, p. 46 (1864) ; *Grand. Rev. et Mag. Zool.* 1867, p. 390 ; *Gray, Hand-l. B.* ii. p. 208, no. 8890 (1870) ; *Hartl. Vög. Madag.* p. 240 (1877) ; *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 150, *Atlas*, i. pls. 42, 60 (1879).

Coua serrisiana, *Bp. Consp. Vol. Zygod.* p. 120 (1854).

Sericosomus serrianus, *Cab. & Heine, Mus. Hein.* iv. p. 74, note (1862) ; *Sharpe, P. Z. S.* 1873, p. 615.

*Adult.* Above olive-brown, with a slight rufous shade on the back of the neck and mantle ; quills and tail purplish black ; a few of the frontal feathers and a broad eyebrow black ; bare patch round the eye blue, paler above than below ; feathers of the cheeks and upper throat black ; lower throat and front of the chest deep chestnut, which colour is partially separated from the black upper throat by the brown of the back of the neck descending nearly across the throat ; remainder of the underparts black, washed, more especially on the lower chest, with brown of the same shade as the mantle ; under surface of the wings brownish black : bill black ; iris red ; legs iron-grey. Total length 16·5 inches, culmen 1, wing 6·2, tail 8·7, tarsus 2·3.

*Immature.* Differs from the adult in having the back more rufous and many of the wing-coverts edged with rufous.

*Hab.* The forests of North-east Madagascar.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Madagascar. | Rev. W. Deans Cowan [C.]. |
| *c*, *d*. Ad. sk. | Madagascar. | Forbes Coll. |
| *e*. Ad. sk. | Madagascar (*Crossley*). | Shelley Coll. |
| *f*. Ad. sk. | Forest of Ancoya. | Purchased. |

### 4. Coua cristata.

Le Coucou huppé de Madagascar, *Briss. Orn.* iv. p. 149, pl. xii. fig. 2 (1760); *Daub. Pl. Enl.* vi. pl. 589.

Cuculus cristatus, *Linn. Syst. Nat.* i. p. 171 (1766); *Wald. Ibis*, 1869, p. 335.

Le Coua, *Montb. Hist. Nat. Ois.* vi. p. 365, pl. 16 (1779); *Levaill. Ois. Afr.* v. p. 67, pl. 217 (1806); *Sundev. Krit. Framst. om Levaill.* p. 48 (1857).

Cuculus (Coua) cristatus, *Cuv. Règne An.* i. p. 425 (1817).

Coccyzus cristatus, *Vieill. Nouv. Dict.* viii. p. 274 (1817); *id. Enc. Méth.* p. 1346 (1823); *Less. Traité*, p. 138 (1831).

Madagascar Cuckow, *Lath. Gen. Hist. B.* iii. p. 270 (1822).

Coua cristatus, *Gray in Griff. An. Kingdom*, vii. p. 458 (1829); *id. Gen. B.* ii. p. 454 (1846); *Reichb. Nat. Syst. Vög.* pl. 66 (1849); *Bp. Consp.* i. p. 109 (1850); *id. Vol. Zygod.* p. 120 (1854); *Schl. Handl. Dierk.* 1857, p. 206; *Hartl. J. f. O.* 1860, p. 110; *Roch & E. Newton, Ibis*, 1863, p. 166; *Schl. Mus. Pays-Bas*, Cuculi, p. 46 (1864); *Schl. P. Z. S.* 1866, p. 424; *Grand. Rev. et Mag. Zool.* 1867, p. 392; *Schl. & Poll. Faun. Madag., Ois.* ii. p. 56 (1868); *Gray, Hand-l. B.* ii. p. 208, no. 8886 (1870); *Sharpe, P. Z. S.* 1873, p. 399; *Poll. Faune Madag.* i. p. 198 (1877); *Hartl. Vög. Madag.* p. 243 (1877).

Serisomus cristatus, *Swains. Class. B.* ii. p. 323 (1837); *A. Newton, P. Z. S.* 1865, p. 834.

Sericosomus cristatus, *Cab. & Heine, Mus. Hein.* iv. p. 72, note (1862); *Cab. Von d. Decken's Reis.* iii. p. 39 (1869); *Sharpe, P. Z. S.* 1873, p. 612.

Coua cristata typica, *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 143, *Atlas*, i. pl. 44 (1879).

*Adult.* Above delicate ashy grey, strongly glossed with green on the mantle and inner half of the wings; remainder of the quills and the tail bright glossy blue, the latter with broad white ends to all but the centre feathers; a bare patch round the eye violet-blue, surmounted by a well-marked black eyebrow; cheeks and upper half of the throat grey like the back of the neck, paler on the chin; lower throat and fore part of the chest bright rufous-buff, with a pink tint in front and passing gradually into white on the remainder of the body and under tail-coverts; under wing-coverts white, obscurely barred with pale ashy grey; under surface of the quills dusky, partially glossed with lilac-blue. Bill black; iris red; legs slate-colour. Total length 13·8 inches, culmen 0·9, wing 5·3, tail 8, tarsus 1·6.

*Hab.* The woodlands of North and East Madagascar.

| | | |
|---|---|---|
| *a*. Ad. st. | Madagascar. | Sir E. Belcher [P.]. |
| *b*. Ad. sk. | Madagascar. | Seebohm Coll. |
| *c*, *d*. ♂ ad. sk. | Madagascar (*Crossley*). | Sharpe Coll. |
| *e*, *f*, *g*. ♂ ad. sk. | Madagascar, Oct. 8 (*Van Dam*). | Shelley Coll. |

### 5. Coua pyropyga.

Coua pyropyga, *Grand. Rev. et Mag. Zool.* 1867, pp. 86, 255.
Coua cristata, var. pyropyga, *Grand. Rev. et Mag. Zool.* 1867, p. 392; *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 146, *Atlas*, i. pls. 45, 46 (1879).
Sericosomus pyropyga, *Sharpe, P. Z. S.* 1873, p. 613.
Coua cristata (*nec L.*), *Bartlett, P. Z. S.* 1875, p. 67.
Coua pyrrhopygia, *Hartl. Vög. Madag.* p. 245 (1877).

*Adult.* Very similar to *C. cristata*, but distinguished by having the white ends to the tail-feathers twice as broad and the under tail-coverts tawny; iris red; legs grey (*Grandidier*). Total length 13·5 inches, culmen 0·95, wing 6·7, tail 8, tarsus 1·55.

In deference to the authors of the 'Histoire Naturelle de Madagascar' I have kept their *C. pyropyga* distinct from *C. cristata*, not having seen the type, but the characters on which the two forms are separated appear to me of small value. In true *C. cristata* the under tail-coverts vary from white to a rufous-buff of the same shade as the chest; the white ends to the tail-feathers generally measure 1·2 inches, except in one specimen with white under tail-coverts, which has the white ends to the tail 2 inches in length.

*Hab.* Western Madagascar, south from Mazamba Bay.

### 6. Coua verreauxi.

Coua verreauxi, *Grand. Rev. et Mag. Zool.* 1867, pp. 86, 417; *Gray, Hand-l. B.* ii. p. 208, no. 8893 (1870); *Hartl. Vög. Madag.* p. 242 (1877); *Milne-Edw. & Grand. Hist. Madag., Ois.* i. p. 146, *Atlas*, i. pl. 47 (1879).
Sericosomus verreauxi, *Sharpe, P. Z. S.* 1873, p. 612, note.

*Adult.* Upper half of the head and back of the neck ashy grey, with the ends of the long crest-feathers dull green; mantle and back greenish-shaded grey; quills grey, broadly glossed with verditer-blue on the primaries and pale green on the secondaries; tail steel-blue, with broad white ends to all but the two centre feathers; under surface ashy, passing into white on the abdomen and under tail-coverts; on the flanks a few rufous feathers: bare patch round the eye small and bright blue; iris red; bill and legs blackish. Total length 14·5 inches, wing 4·9, tail 7·8, tarsus 1·5. (*Milne-Edwards and Grandidier, l. c.*)

*Hab.* The arid plains of South Madagascar.

### 7. Coua ruficeps.

Coua ruficeps, *Gray, Gen. B.* ii. p. 454, pl. 115 (1846); *Hartl. Faun. Madag.* p. 61 (1861); *Grand. Rev. et Mag. Zool.* 1867, p. 391, pt.: *Gray, Hand-l. B.* ii. p. 208, no. 8887 (1870): *Hartl. Vög. Madag.* p. 246 (1877, pt.).

Sericosomus ruficeps, *Cab. & Heine, Mus. Hein.* iv. p. 73, note (1862); *Sharpe, P. Z. S.* 1873, p. 614.
Coua ruficeps typicus, *Milne-Edwards & Grandid. Hist. Madag., Ois.* i. p. 156, *Atlas*, i. pl. 53 (1879).

*Adult.* Above olive-grey washed with lilac, very strongly so on the lower back and upper tail-coverts; edges of the quills less glossed with lilac; tail deep violet-blue, with white ends to the three outer pairs of feathers; entire crown chestnut; bare patch on the sides of the head indigo-blue, surrounded by black feathers; the eyebrow very narrow, the black feathers broadest beneath the hinder portion of the bare patch and extending obscurely round the nape; chin and upper throat white, shading into buff on the sides and below; remainder of the underparts rufous-buff, very strongly shaded with lilac on the lower throat and fore part of the chest and more slightly so on the flanks and under tail-coverts; centre of the lower breast and abdomen whitish; under surface of the wings uniform brownish grey: bill black, with a pale patch on the base of the keel; iris brown; legs blackish. Total length 15·1 inches, culmen 0·9, wing 6·4, tail 9·5, tarsus 2·2.

*Hab.* The forests of North-western Madagascar.

| | | |
|---|---|---|
| *a.* Ad. sk. | Madagascar. | Edward Wilson, Esq. [P.]. |
| *b, c.* Ad. sk. | Madagascar (*Van Dam*). | Seebohm Coll. |
| *d.* ♀ ad. sk. | N.E. Madagascar (*Verreaux*). | Sharpe Coll. |

## 8. Coua olivaceiceps.

Coua ruficeps, pt., *Grand. Rev. et Mag. Zool.* 1867, p. 391; *Hartl. Vög. Madag.* p. 246 (1877).
Sericosomus olivaceiceps, *Sharpe, P. Z. S.* 1873, p. 615.
Coua ruficeps, var. olivaceiceps, *Milne-Edwards & Grandid. Hist. Madag., Ois.* i. p. 157, *Atlas*, i. pls. 54, 55, 56, 61, 64 (1879).

*Adult* (type of species). Very similar to *C. ruficeps*, but differs in the forehead, crown, and nape being olive-brown, slightly darker than the back, with a chocolate-brown shade; abdomen and under tail-coverts fulvous-white: bill black, with a small yellow patch on the sides of the base of the keel; irides brown; legs blackish. Total length 17·7 inches, culmen 0·95, wing 6·2, tail 9·5, tarsus 2·2.

*Hab.* Madagascar, from Cape St. André to the Bay of St. Augustin on the west coast.

| | | |
|---|---|---|
| *a.* Ad. sk. | S.W. Madagascar, December. | M. Grandidier [P.]. (Type of species.) |

## 9. Coua cursor.

Haliouts ou Harefets, *Flacourt, Hist. Madag.* p. 166 (1661).
Coua cursor, *Grand. Rev. et Mag. Zool.* 1867, pp. 86, 391; *Gray, Hand-l. B.* ii. p. 208, no. 8892 (1870); *Hartl. Vög. Madag.* p. 241

(1877); *Milne-Edwards & Grandid. Hist. Madag., Ois.* i. p. 158, *Atlas*, i. pl. 57 (1879).
Sericosomus cursor, *Sharpe, P. Z. S.* 1873, p. 613.

*Adult.* Above greenish grey, with the quills and tail violet-shaded brown, the latter with white ends to all but the four centre feathers. Bare skin on the sides of the head indigo-blue, shading into violet behind, and with a narrow edging of black feathers; chin whitish, passing into yellow on the throat, which is shaded on the sides with orange-red; chest pale lilac; abdomen white; under tail-coverts brownish: bill and legs black; iris red. Total length 12 inches, culmen 0·95, wing 4·9, tail 7, tarsus 1·8.

*Hab.* The arid plains of the western portion of South Madagascar.

### 10. Coua coquereli.

Coua coquerelli, *Grandid. Rev. et Mag. Zool.* 1867, pp. 86, 391; *Gray, Hand-l. B.* ii. p. 208, no. 8891 (1879); *Hartl. Vög. Madag.* p. 237 (1877); *Milne-Edw. Hist. Madag. Ois.* i. p. 159, pls. 58, 59 (1879).
Coua hartlaubi, *Grandid. Rev. et Mag. Zool.* 1869, p. 339.
Sericosomus coquerelli, *Sharpe, P. Z. S.* 1873, p. 614.

*Adult.* Very similar in plumage to *C. gigas*, but much smaller. Entire upper parts nearly uniform olive; quills brown, and with narrow pale edges; four centre tail-feathers uniform like the back, the remaining three pairs shading into greenish black and having white ends; the bare patch round the eye pale blue, but sometimes shading into pink behind: the feathers on the sides of the head and the underparts closely resembling *C. gigas* in colour, but the lower breast with an additional pink shade which partially extends over the thighs and abdomen: bill and legs black; iris red. Total length 14·2 inches, culmen 0·85, wing 5·7, tail 9, tarsus 1·95.

*Hab.* The bushy plains of Western Madagascar from Cape St. André to the Bay of St. Augustin.

| | | |
|---|---|---|
| *a, b.* ♂ ♀ ad. sk. | Madagascar (*Van Dam*). | Seebohm Coll. |
| *c.* Ad. sk. | Mourondava. | M. Grandidier. |
| *d, e.* ♂ ♀ ad. sk. | Mourondava (*Van Dam*). | Sharpe Coll. |

### 11. Coua gigas.

Hehoc, *Flacourt, Hist. Madag.* p. 166 (1661).
Le Coucou verdâtre de Madagascar, *Month. Hist. Nat. Ois.* vi. p. 364 (1779).
Great Madagascar Cuckow, *Lath. Gen. Syn. B.* ii. p. 521 (1781).
Le Grand Coucou de Madagascar, *Daubent. Pl. Enl.* vi. pls. 587, 588 (1783).
Cuculus gigas, *Bodd. Tabl. Pl. Enl.* p. 56 (1783).
Cuculus madagascariensis, *Gm. Syst. Nat.* i. p. 416 (1788).
Coccyzus virescens, *Vieill. Nouv. Dict.* viii. p. 279 (1817); *id. Enc. Méth.* p. 1349 (1823).
Cuculus (Coua) madagascariensis, *Cuv. Règne An.* i. p. 425 (1817).
Madagascar Cuckow, *Lath. Gen. Hist. B.* iii. p. 276 (1822).
Coua verdâtre, *Drap. Dict. Class. d'Hist. Nat.* iv. p. 561 (1823).

Coua madagascariensis, *Gray in Griff. An. Kingdom*, vii. p. 458 (1829); *id. List Gen. B.* p. 72 (1841); *Bp. Consp.* i. p. 109 (1850); *id. Consp. Vol. Zygod.* p. 120 (1854); *Hartl. J. f. O.* 1860, p. 110; *Grandid. Rev. et Mag. Zool.* 1867, p. 392.

Coccyzus madagascariensis, *Temm. Tabl. Méth.* p. 53 (1838).

Coua gigas, *Gray, Gen. B.* ii. p. 454 (1846); *id. Hand-l. B.* ii. p. 208, no. 8888; *Hartl. Vög. Mag.* p. 247 (1877); *Milne-Edwards & Grandid. Hist. Madag., Ois.* i. p. 153, *Atlas*, i. pls. 51, 52, 62, 63 (1879).

Coua (Serisomus) madagascariensis, *Hartl. Faun. Madag.* p. 62 (1861).

Sericosomus gigas, *Cab. & Heine, Mus. Hein.* iv. p. 72, note (1862); *Sharpe, P. Z. S.* 1873, p. 613.

*Adult.* Above yellowish brown, darker on the forehead and crown, much paler on the back of the neck and shaded with olive on the back and wings; centre tail-feathers olive-shaded bronze, deepening into greenish black on the outer ones, and with broad white ends to all but the four centre ones; a bare patch on the sides of the head indigo-blue, passing into pink behind the eye; this patch margined above by a narrow black band of feathers, and below by a much broader one which covers the lores, cheeks, and ear-coverts; chin and upper throat nearly white, deepening into buff on the lower throat, and passing into cinnamon on the chest; sides of the body and the thighs ashy brown; abdomen and under tail-coverts brownish black; under surface of the wings uniform dark brown; dark portion of the under surface of the tail black: bill and legs black; iris red. Total length 20 inches, culmen 1·3, wing 8·5, tail 12·5, tarsus 2·6.

*Hab.* The wooded plains of West and South Madagascar.

| | | |
|---|---|---|
| *a*. ♀ ad. sk. | Madagascar, July. | Shelley Coll. |
| *b*, *c*. ♂ ♀ ad. sk. | Madagascar (*Van Dam*). | Seebohm Coll. |
| *d*. ♂ ad. sk. | Mourondava. | Sharpe Coll. |
| *e*. Ad. sk. | Mourondava. | M. Grandidier [P.]. |

## 12. Coua delalandii.

Coccyzus delalandei, *Temm. Pl. Col.* 440 (1828); *Less. Traité*, p. 138 (1831).

Cuculus (Coua) delalandii, *Cuv. Règne An.* i. p. 454, note (1817).

Coua lalandii, *Gray in Griff. An. Kingdom*, vii. p. 458 (1829).

Le Coua casseur d'escargots, *Sganz. Mém. Soc. Mus. Hist. Nat. Strasbourg*, 1840, p. 32.

Coua Famac-acora, *Ackermann, Rev. Zool.* 1841, p. 209.

Coua delalandi, *Gray, Gen. B.* ii. p. 454 (1846); *Bp. Consp.* i. p. 109 (1850); *Hartl. J. f. O.* 1860, p. 110; *Schl. Mus. Pays-Bas*, Cuculi, p. 46 (1864); *Grand. Rev. et Mag. Zool.* 1867, p. 392; *Gray, Hand-l. B.* ii. p. 208, no. 8895 (1870); *Milne-Edwards & Grandid. Hist. Madag., Ois.* i. p. 152, *Atlas*, i. pl. 50 (1879).

Serisomus delalandii, *Bp. Consp. Vol. Zygod.* p. 120 (1854).

Coua (Serisomus) delalandi, *Hartl. Faun. Madag.* p. 62 (1861).

Cochlothraustes delalandei, *Cab. & Heine, Mus. Hein.* iv. p. 74, note (1862); *Sharpe, P. Z. S.* 1873, p. 617; *Hartl. Vög. Madag.* p. 250 (1877).

*Adult.* Upper parts deep indigo-blue, glossed with purple on the mantle and slightly with green on the wings and tail; tail-feathers, with the exception of the four centre ones, with white ends; bare patch round the eye indigo-blue, surrounded by black feathers which extend over the ear-coverts and cheeks; entire throat and front of chest white; remainder of underparts chestnut, inclining to deep chocolate-brown on the under tail-coverts; bill and legs black; iris brown. Total length 22·2 inches, culmen 1·7, wing 8·3, tail 12, tarsus 2·9.

*Hab.* Eastern Madagascar near Tamatave.

| | | |
|---|---|---|
| *a*. Ad. sk. | Madagascar. | Seebohm Coll. |
| *b*. Ad. sk. | Madagascar. | Purchased. |

## Subfamily IV. NEOMORPHINÆ.

*Key to the Genera.*

*a*. Bill stronger and deeper; depth of bill greater than half the distance from the nostril to the tip.
  *a'*. Feathers of the forehead not extending forward to the nostrils. Culmen broad and rounded near the forehead; nostril a horizontal slit with no overhanging membrane ..... 35. Carpococcyx, p. 414.
  *b'*. Feathers of the forehead extending forward on to the membrane which overlaps the nostrils, which are horizontal slits. Culmen much compressed towards the forehead ..... 36. Neomorphus, p. 415.
*b*. Bill thinner and not so deep; depth of bill less than half the distance from the nostril to the tip.
  *c'*. Tail longer, more narrow and pointed . 37. Geococcyx, p. 419.
  *d'*. Tail shorter and not so pointed, the feathers being broader ..... 38. Morococcyx, p. 422.

### 35. CARPOCOCCYX.

| | Type. |
|---|---|
| Carpococcyx, *Gray, List Gen. B.* p. 56 (1840) ..... | C. radiatus. |

*Range.* Confined to Borneo.

#### 1. Carpococcyx radiatus.

Calobates radiceus, *Temm. Pl. Col.* 538 (1832); *S. Müll. Verh. Nat. Gesch. Land- en Volkenk.* p. 234, note (1839–44); *Low, Sarawak*, p. 411 (1848).
Calobates radiatus, *Temm. Tabl. Méth.* p. 53 (1838).
Carpococcyx radiceus, *Gray, List Gen. B.* p. 56 (1840); *id. Gen. B.* ii. p. 460, pl. 17. fig. 5 (1845).
Carpococcyx radiatus, *Bp. Consp.* i. p. 97 (1850); *id. Consp. Vol. Zygod.* p. 5 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 71, note

(1862); *Wallace, P. Z. S.* 1863, p. 28; *Gray, Hand-l. B.* ii. p. 206, no. 8872 (1870); *Sharpe, P. Z. S.* 1873, p. 607, fig. 16; *Salvad. Ucc. Borneo*, p. 76 (1874); *Brügg. Abhandl. nat. Ver. Brem.* v. p. 455 (1877); *Sharpe, Ibis*, 1877, p. 7, 1878, p. 416; *Becc. Ann. Mus. Civ. Gen.* xiii. p. 452 (1878); *Salvad. op. cit.* xiv. p. 187 (1879).

Neomorphus radiatus, *Schl. Mus. Pays-Bas*, Cuculi, p. 60 (1864).

*Adult.* Head black, strongly glossed with violet on the upper parts; neck pearl-grey, shaded behind with green, and passing into glossy grass-green on the mantle and outer webs of most of the quills; primary-coverts and quills mostly glossy blue-black, strongly shaded with lilac-bronze, chiefly so on the secondaries; back rufous-shaded brown, washed with green at the ends of the feathers; upper tail-coverts and tail glossy violet, partially shaded with green, especially on the coverts; sides of the head bare and green; chin and upper throat black, less glossed with violet than the crown, and abruptly passing into pearl-grey tinted with green on the remainder of the throat; the rest of the underparts white, shaded with rufous-brown on the sides of the body, abdomen, and under tail-coverts, and each feather with numerous concentric dark bars, mostly green; axillaries and under wing-coverts dark rufous-brown, with dusky bars; under surface of the quills black: "bill and legs green; iris brown" (*Wallace*). Total length 24·3 inches, culmen 2·2, wing 9·5, tail 12, tarsus 3·45.

*Hab.* Borneo.

| | | |
|---|---|---|
| *a, b.* Ad. st.; *c.* Ad. sk. | Borneo. | Rajah Brooke [P.]. |
| *d.* Ad. sk. | Borneo. | Seebohm Coll. |
| *e.* Ad. sk. | Lumbidan (*H. T. Ussher*). | Tweeddale Coll. |
| *f.* Ad. sk. | Sarawak. | Wallace Coll. |
| *g.* Ad. sk. | Sarawak, Oct. (*A. H. Everett*). | Tweeddale Coll. |
| *h.* ♂ imm. sk. | Baram, July. | C. Hose, Esq. [P.]. |

### 2. Carpococcyx viridis.

Carpococcyx viridis, *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 187 (1879).

Count Salvadori, in his account of Beccari's collection from Sumatra, points out that the *Carpococcyx* from the latter island is much smaller and darker than the Bornean bird, and lacks the violet reflexions which are mentioned in every description of the latter bird. All the adult specimens of *C. radiatus* and even the young birds in the Museum are purple.

*Hab.* Sumatra.

## 36. NEOMORPHUS.

| | Type. |
|---|---|
| Neomorphus, *Gloger in Froriep's Notiz.* xvi. p. 278 (1827) | |
| Cultrides, *Pucher. Rev. Zool.* 1845, p. 51 | N. geoffroyi. |
| | N. geoffroyi. |

*Range.* Central America from Nicaragua to Panama, extending to Colombia, Ecuador, Guiana, Amazonia, and Brazil.

*Key to the Species.*

*a*. With a sharply defined narrow black pectoral collar.
  *a'*. Quills metallic green; abdomen and under tail-coverts chestnut.
    *a''*. Mantle, wings, and upper tail-coverts not shaded with lilac ..... *geoffroyi*, p. 416.
    *b''*. Mantle, wings, and upper tail-coverts lilac ..... *salvini*, p. 417.
  *b'*. Quills not green; abdomen and under tail-coverts not chestnut ..... *pucherani*, p. 417.
*b*. With no sharply defined black pectoral collar.
  *c'*. With no pale bars on the plumage ..... *rufipennis*, p. 418.
  *d'*. With whitish bars on the mantle and underparts ..... *radiolosus*, p. 418.

## 1. Neomorphus geoffroyi.

Coua geoffroyi, *Temm. Pl. Col.* iii. pl. 7.

Coccyzus geoffroyi, *Temm. Tabl. Méth.* p. 52 (1838); *Steph. Gen. Zool.* xiv. p. 205 (1826); *Neuwied, Beitr. Natury. Bras.* iv. p. 324 (1833).

Neomorphus geoffroyi, *Glog. in Froriep's Notiz.* xvi. p. 277 (1827); *Cab. & Heine, Mus. Hein.* iv. p. 91 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 60 (1864); *Scl. P. Z. S.* 1864, p. 249, 1866, p. 59; *Pelz. Orn. Bras.* p. 271 (1871); *Lawrence, Ibis*, 1873, pp. 289, 294; *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873).

Cultrides geoffroyi, *Pucher. Rev. Zool.* 1845, p. 51; *Deville, Rev. et Mag. Zool.* 1851, p. 212; *Burm. Syst. Uebers. Th. Bras.* ii. p. 258 (1855).

Cuculus torquatus, *Ill. in Mus. Berol., fide Cab. & Heine, Mus. Hein.* iv. p. 91 (1862).

*Adult*. Upper half of the head pale rufous, with dark bars and blue ends, the latter colour extending over the terminal half of the crest; back of the neck rufous-buff barred with green; mantle metallic green: feathers of the upper back partially edged with rufous-buff; inner quills metallic green, slightly washed on their edges with lilac, and gradually passing on the outer primaries into blue-black; centre of the back chestnut, often shaded with green; tail-coverts metallic green; tail lilac, passing into green at the end and on the outer feathers; a bare patch round the eye; feathers of the cheeks and ear-coverts rufous-buff with dark bars; throat rufous or brownish buff, with broad dark bars and very narrow shaft-stripes to the feathers, becoming much more obscure down the centre of the throat; at the base of the throat a narrow black collar separates it from the more uniform breast, which is ashy on the chest, passing into chestnut on the flanks, abdomen, and under tail-coverts, the abdomen being generally darker and browner; under surface of the quills black; coverts rufous; bill greenish yellow, darker towards the base of both mandibles. Length 21 inches, culmen 1·9, wing 6·8, tail 11, tarsus 2·7.

*Hab.* Brazil.

| | | |
|---|---|---|
| *a*, *b*. Ad. st. | Brazil. | Purchased. |
| *c*. Ad. sk. | Brazil. | Old Collection. |
| *d*, *e*. Ad. et imm. sk. | Para (*J. Natterer & A. R. Wallace*). | Sclater Coll. |
| *f*, *g*. Ad. sk. | Bahia (*Dr. Wucherer*). | Salvin-Godman Coll. |

### 2. Neomorphus salvini.

Neomorphus salvini, *Scl. P. Z. S.* 1866, p. 60, pl. 5, 1867, pp. 156, 295; *Salv. Ibis*, 1872, pp. 313, 323; *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *Lawrence, Ibis*, 1873, pp. 291, 295.

*Adult.* Very similar to *N. geoffroyi*, but differs in the rufous of the head and crown being without bars; the feathers of the back of the neck and upper back uniform without fulvescent ends; greater portion of the wings and the tail-coverts metallic lilac; the back darker brown and very strongly glossed with lilac; the throat slightly more ashy and less mottled: "bill light horn-colour, clouded in the middle and paler at the edges" (*Lawrence*). Total length 19·8 inches, culmen 2, wing 6·4, tail 11, tarsus 2·75.

*Hab.* From Nicaragua to Panama, and thence to Colombia and Ecuador.

| | | |
|---|---|---|
| *a*. Ad. sk. | Nicaragua (*T. Belt*). | Salvin-Godman Coll. |
| *b*. ♀ ad. sk. | Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Veragua (*E. Arcé*). | Sclater Coll. (Type of species.) |
| *d*. Ad. sk. | Panama. | Seebohm Coll. |
| *e*. ♂ ad. st. | New Granada. | Purchased. |
| *f*. Ad. sk. | Rio Cotopaza, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |

### 3. Neomorphus pucherani.

Cultrides pucherani, *Deville, Rev. et Mag. Zool.* 1851, p. 211; *Des Murs, in Casteln. Exped. Ois.* p. 18, pls. 6, 7 (1855).

Neomorphus pucherani, *Cab. & Heine, Mus. Hein.* iv. p. 92, note (1862); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *id. P. Z. S.* 1873, p. 296; *Lawrence, Ibis*, 1873, pp. 293, 295; *Tacz. Orn. Pérou*, iii. p. 183 (1886).

Neomorphus rufipennis, *Scl. P. Z. S.* 1864, p. 249 (pt., Upper Amazon).

*Adult.* Upper half of the head dark glossy blue, slightly washed with olive towards the forehead; back of the neck and mantle metallic olive-green, of a darker and more bronzy shade down the back and on the upper tail-coverts; primaries purplish blue, slightly washed with green and lilac; secondaries deep lilac-shaded rufous, mostly with the inner portions blue-black; tail metallic green, partially glossed with lilac and darkening almost into black on the outer feathers; a large red patch of bare skin surrounding the eye and extending to the bill and margined beneath on the hinder half by a band of black feathers; throat ashy brown, passing into white towards the chin and inclining to white next to the narrow black pectoral band; chest and thighs ashy white; flanks, lower abdomen, and under tail-coverts dusky brown; under surface of the quills

bronzy black; under wing-coverts ashy brown: "bill deep carmine, the ends of both mandibles and cutting-edges yellow; iris brown" (*Hauxwell*). Total length 21·5 inches, culmen 2·15, wing 6·8, tail 10·5, tarsus 2·75.

*Nestling*. General plumage dark brown, passing into glossy olive-green on the crest, which is fully developed; primaries and tail glossed with purple, secondaries partially washed with chestnut.

*Hab.* Upper Amazons.

| | | |
|---|---|---|
| *a*. ♂ ad.; *b*. ♂ pull. sk. | Pebas, Eastern Peru, Feb., May (*J. Hauxwell*). | Salvin-Godman Coll. |
| *c*. ♀ ad. sk. | Pebas (*J. Hauxwell*). | Sclater Coll. |

### 4. Neomorphus rufipennis.

Cultrides rufipennis, *Gray, P. Z. S.* 1849, p. 63, pl. 10.
Neomorphus rufipennis, *Cab. & Heine, Mus. Hein.* iv. p. 92, note (1862); *Sel. P. Z. S.* 1864, p. 249 (pt., Guiana), 1866, p. 60; *Pelz. Orn. Bras.* p. 272 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *Lawrence, Ibis*, 1873, pp. 292, 295; *Salvin, Ibis*, 1886, p. 63.

*Adult*. Upper half of the head and back of the neck blue, passing into olive on the mantle, back, and upper tail-coverts; primaries purplish blue-black; secondaries mostly deep lilac-shaded rufous, generally with an inner portion blue-black; tail metallic lilac-shaded green, darkening into greenish black towards the ends of the outer feathers; a large red patch of bare skin surrounding the eye and extending to the bill, and margined below on the hinder half by a band of black feathers; chin and upper half of the throat uniform ashy brown, about halfway down the throat the feathers gradually assuming bluish-black edges, which widen in extent and form a broad uniform blackish basal collar to the throat; chest pale brown, darker on the flanks and dusky brown on the abdomen and under tail-coverts: the basal two-thirds of the bill black and the remainder yellowish green; iris brown; legs olive. Total length 21·5 inches, culmen 1·8, wing 6·6, tail 11·5, tarsus 2·9.

*Hab.* Guiana.

| | | |
|---|---|---|
| *a*. Ad. sk. | [Guiana.] | Purchased. |
| *b*. ♀ ad. sk. | Camacusa, British Guiana, Oct. (*H. Whitely*). | Salvin-Godman Coll. |

### 5. Neomorphus radiolosus.

Neomorphus radiolosus, *Salv. P. Z. S.* 1878, p. 439, pl. 27.

*Adult*. Upper half of the head, back of the neck, and front of the mantle glossy greenish black, barred with brownish buff on the forehead and front of the crown, and with white or rufous-white on the mantle; primaries violet-black; remainder of the back dark lilac-shaded chestnut; upper tail-coverts olive-green mixed with violet; tail bright glossy green, darker towards the end and on the outer feathers; sides of the head black, with a dark bare patch round the

eye; feathers of the underparts with very irregular and rather broad bars of black and whitish, giving a mottled appearance: abdomen and under tail-coverts uniform dusky black, slightly glossed with olive; bill blackish horn-colour, lighter along the end half of the edges of the mandibles: "iris brown; legs olive-grey" (*C. Buckley*). Total length 19·1 inches, culmen 2, wing 6·2, tail 10, tarsus 2·75.

*Hab.* Ecuador.

*a*. Ad. sk. Intaj, Ecuador (*C. Buckley*). Salvin-Godman Coll. (Type of species.)

## 37. GEOCOCCYX.

Type.

Geococcyx, *Wagl. Isis*, 1831, p. 524 ..... G. mexicanus.
Leptostoma, *Swains. Class. B.* ii. p. 325 (1837) ..... G. mexicanus.

*Range.* Southern United States to California, and extending to Mexico and Guatemala.

*Key to the Species.*

*a*. Under tail-coverts white ..... *mexicanus*, p. 419.
*b*. Under tail-coverts dark brown ..... *affinis*, p. 421.

### 1. Geococcyx mexicanus.

Phasianus mexicanus, *Gm. Syst. Nat.* i. p. 741 (1788); *Walden, Ibis*, 1869, p. 338.
Saurothera californiana, *Less. Compl. Buff.* vi. p. 420 (1829); *id. Traité*, p. 145 (1831); *id. Ann. du Mus.* 1835, p. 121, pl. 9.
Cuculus viaticus, *Licht. in Mus. Berol., fide Wagl. Isis*, 1831, p. 524; *Hartl. Rev. Zool.* 1844, p. 215; *Pucher. op. cit.* 1845, p. 51.
Geococcyx variegata, *Wagl. Isis*, 1831, p. 524; *Gray, Gen. B.* ii. p. 453 (1847).
Diplopterus viaticus, *Boie, Isis*, 1831, p. 541.
Saurothera bottæ, *Less. Traité*, p. 145 (1831); *Botta, Nouv. Ann. Mus.* 1835, p. 121, pl. 9.
Saurothera marginata, *Kaup, Isis*, 1832, p. 991, pl. 26.
Cuculus velox, *Karwinski, München Gelehrt. Anzeig.* iii. p. 95 (1836).
Leptostoma longicauda, *Swains. Class. B.* ii. p. 325 (1837); *Gambel, Proc. Ac. Nat. Sc. Phil.* 1843, p. 363.
Geococcyx mexicanus, *Strickl. Ann. & Mag. Nat. Hist.* viii. p. 544 (1842); *Gray, Gen. B.* ii. p. 453 (1847); *Cass. Ill. B. Californ.* i. p. 213, pl. 36 (1855); *Scl. Cat. Am. B.* p. 324 (1862); *id. P. Z. S.* 1864, p. 177; *Gray, Hand-l. B.* ii. p. 209, no. 8900 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873).
Geococcyx viaticus, *Hartl. Rev. Zool.* 1844, p. 215; *McCall. Proc. Ac. Nat. Sc. Phil.* iii. p. 254 (1847); *Gray, Gen. B.* ii. p. 453 (1847); *Hermann, Journ. Ac. Nat. Sc. Philad.* (2) ii. p. 270 (1853).
Geococcyx velox, *Gray, Gen. B.* ii. p. 453 (1847).
Geococcyx californianus, *Baird, B. N. Am.* p. 73 (1860); *Cab. & Heine, Mus. Hein.* iv. p. 96 (1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 40 (1864); *Dresser, Ibis*, 1865, p. 466; *Cooper, Orn. Cal.* p. 367 (1870); *Coues, Key N. Am. B.* p. 189 (1872); *Baird, N. Am. B.* ii. p. 472 (1874); *Brown, Bull. Nutt. Orn. Club*, vii. p. 41 (1882); *Brewster, op. cit.* viii. p. 25 (1883); *Coues, Key N. Am. B.*

2nd ed. p. 474 (1884); *Drew, Auk*, ii. p. 17 (1885); *Shufeldt, Ibis*, 1885, p. 286, pl. 7; *id. P. Z. S.* 1886, p. 466, pls. 42, 45; *A. O. U. Check-List*, p. 207 (1886); *Scott & Allen, Auk*, iii. p. 425 (1886); *Ridgw. Man.* p. 272 (1887); *Shufeldt, Proc. U. S. Nat. Mus.* 1887, p. 385; *id. Journ. Anat. Phys.* xx. pp. 244, 266, pls. 7–9, xxi. pp. 101, 102.

Geococcyx marginatus, *Gray, Hand-l. B.* ii. p. 209, no. 8901 (1870).

*Adult.* Crown and back of the neck violet-shaded blue-black, very much mottled with rufous and with white edges to the feathers, the blue colouring being almost hidden on the forehead, sides of the crown, and back of the neck; feathers of the mantle and wing-coverts greener, but similarly edged; secondaries more metallic green, with clear white edges; primaries darker and blacker, with a patch of white; the tip of the outer web of each feather also white; back dusky olive; tail-coverts and two centre tail-feathers lilac-shaded bronze with white edges; the remaining feathers bluish black, with broad white ends; sides of the head whitish, mottled with black and rufous, chin and upper throat with a mottled blackish line down each side; lower throat and crop mottled with rufous centres to the feathers and rather broad black shaft-stripes; under surface of the wings dusky brown, with two white marks on the outer webs of the primaries: "bill black; iris red; bare space round the eye blue, fading into white behind and then a patch of orange-red" (*R. W. Shufeldt*). Total length 24 inches, culmen 2·1, wing 7, tail 12, tarsus 2·4.

*Hab.* Texas, New Mexico, Southern Colorado, and westward to California; south into Mexico.

| | | |
|---|---|---|
| *a*. Ad sk. | Texas (*Dr. Abadie*). | Salvin-Godman Coll. |
| *b*. ♂ ad. sk. | Fort Stockton, Texas, Aug. | Salvin-Godman Coll. |
| *c, d*. ♂ ad.; *e–i*. ♀ ad. sk. | Corpus Christi, Texas, Oct., Dec., March (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *k, l*. ♂ ♀ ad. sk. | Papalote, Bee Co., Texas, Jan. (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *m, n*. ♂ ad. sk. | Ballena, San Diego Co., California, Feb., June (*F. Stephens*). | Salvin-Godman Coll. |
| *o*. Ad. sk. | California. | Purchased. |
| *p*. Ad. sk. | California. | Salvin-Godman Coll. |
| *q, r, s*. Ad. sk. | Mexico. | Salvin-Godman Coll. |
| *t*. Ad. st. | Mexico. | J. Phillips, Esq. [P.]. |
| *u–x*. ♂ ad.; *y, z*. ♀ ad. sk. | Nuevo Leon, Mexico, May (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *a'*, *b'*. ♂ ad.: *c'*. ♀ ad. sk. | Sierra Madre, above Ciudad Victoria, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *d'*. ♀ ad. sk. | Xicotencal, Tamaulipas, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *e'*. ♀ ad. sk. | Soto la Marina, April (*W. B. Richardson*). | Salvin-Godman Coll. |
| *f'*. ♂ ad. sk. | Tamesi, near Tampico, March (*W. B. Richardson*). | Salvin-Godman Coll. |
| *g'*. ♂ ad. sk. | Tenango del Valle, Oct. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *h'*. ♀ ad. sk. | San Salvador, Huejotzingo, Puebla, Feb. (*Ferrari-Perez*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *i'*, *k'*. ♂ ad. sk. | Zapotlan, Jalisco, Dec., April (*W. Lloyd & W. B. Richardson*). | Salvin-Godman Coll. |
| *l'*. Skeleton. | California. | Purchased. |
| *m'*. Skeleton. | | Eyton Coll. |

## 2. Geococcyx affinis.

Geococcyx affinis, *Hartl. Rev. Zool.* 1844, p. 215; *Gray, Gen. B.* ii. p. 453, pl. 114 (1847); *Gambel, Journ. Ac. Philad.* 1849, p. 217; *Scl. P. Z. S.* 1858, p. 305; *id. & Salv. Ibis*, 1859, p. 134; *Salv. Ibis*, 1861, p. 67; *Scl. Cat. Amer. B.* p. 324 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *Forbes, P. Z. S.* 1877, pp. 307, 311; *Ridgw. Proc. U. S. Nat. Mus.* ix. p. 162 (1886); *id. Man. N. Am. B.* 273 (1887).

Geococcyx mexicanus (*nec Gm.*), *Cab. & Heine, Mus. Hein.* iv. p. 97 (pt., 1862); *Schl. Mus. Pays-Bas*, Cuculi, p. 41 (pt., 1864).

*Adult.* Crown black, with terminal twin buff spots to the feathers; back of the neck and mantle rufous-shaded brown, with white edges to the feathers; outer half of the wing-coverts black, with broad white margins; primaries black, with a patch and the tip of the outer web of each feather white; secondaries and larger scapulars glossy green shaded with lilac and with broad white edges; back uniform dark rufous-brown; upper tail-coverts and two centre tail-feathers violet-bronze, edged with white; remainder of the tail-feathers darker and greener, and with white ends; a rather large smooth bare patch on the sides of the head bright blue, the feathers in front uniform white; ear-coverts and chin white, streaked with brown; beneath buff, with broad black bands down the centres of the feathers of the sides of the throat; lower abdomen and under tail-coverts dark brown; under surface of the wings dusky brown, with two white marks on the outer web of each primary: "iris white" (*G. F. Gaumer*). Total length 19 inches, culmen 1·6, wing 6·1, tail 11·5, tarsus 2.

*Immature.* Only differs from the adult in being slightly duller and mottled with brown down the sides of the throat and breast. The under tail-coverts are dark as in the adult.

*Hab.* Mexico and Guatemala.

| | | |
|---|---|---|
| *a*. Ad. st. | Mexico. | Purchased. |
| *b*. Ad. sk. | Mexico. | Tweeddale Coll. |
| *c*. ♀ ad. sk. | Sierra de Alamos, Sonora, May (*W. Lloyd*). | Salvin-Godman Coll. |
| *d*. ♂ ad. sk. | Presidio, April (*A. Forrer*). | Salvin-Godman Coll. |
| *e*, *f*. ♂ ♀ ad. sk. | Hacienda S. Marcos, Zapotlan, Jalisco, May (*W. Lloyd*). | Salvin-Godman Coll. |
| *g*. ♀ ad. sk. | Volcan de Colima, Dec. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *h*. ♀ ad. sk. | Xautipa, State of Guerrero, July (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *i*. ♂ ad. sk. | Oaxaca (*Fenochio*). | Salvin-Godman Coll |
| *k*. ♀ ad. sk. | Los Cerrillos, State of Vera Cruz, June (*M. Truxillo*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *l.* ♂ ad. sk. | Zentla, Huatusco, State of Vera Cruz, Aug. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *m, n, o.* ♂ ad. sk. | Jalapa, March (*F. D. G.*). | Salvin-Godman Coll. |
| *p, q.* Ad. sk. | Peto, Yucatan, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *r, s.* Ad. sk. | Temax, Yucatan, May (*G. F. Gaumer*). | Sclater Coll. |
| *t.* Ad. sk. | Progreso, Northern Yucatan, Jan. (*E. C. J. Devis*). | Salvin-Godman Coll. |
| *u.* Ad. sk. | Izalam, N. Yucatan, Feb. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *v.* ♀ ad. sk. | Sierra S. Domingo, Tehuantepec, April 19 (*W. B. Richardson*). | Salvin-Godman Coll. |
| *w, x.* ♂ ; *y.* ♀ ad. sk. | Tehuantepec, Feb. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *z, a', b'.* Ad. sk. | Guatemala. | Seebohm Coll. |
| *c'.* Ad. sk. | Vera Paz (*O. S.*). | Salvin-Godman Coll. |
| *d', e'.* Ad. et juv. sk. | Dueñas, Sept. (*O. S.*). | Salvin-Godman Coll. |
| *f', g'.* ♀ ad. sk. | San Gerónimo, Dec., April (*O. S.*). | Salvin-Godman Coll. |

## 38. MOROCOCCYX.

| | Type. |
|---|---|
| Morococcyx, *Sclat. Cat. Amer. B.* p. 322 (1862) .. | M. erythropygus. |

*Range.* From Mexico to Costa Rica.

### 1. Morococcyx erythropygus.

Coccyzus erythropygus, *Less. Rev. Zool.* 1842, p. 209 : *Gray, Hand-l. B.* ii. p. 212, no. 8938 (1870).

Piaya erythropygia, *Gray, Gen. B.* ii. p. 457 (1846) ; *Des Murs, Icon. Orn.* pl. 66 (1848) ; *Scl. & Salv. Ibis*, 1859, p. 133 ; *G. E. Taylor, Ibis*, 1860, p. 118.

Pyrrhococcyx erythropygius, *Bp. Consp. Vol. Zygod.* p. 6 (1854).

Morococcyx erythropygius, *Scl. Cat. Amer. B.* p. 322 (1862) ; *Cab. & Heine, Mus. Hein.* iv. p. 81, note (1862) ; *Scl. & Salv. Nomencl. Av. Neotr.* p. 108 (1873) ; *Nutting, Proc. U.S. Nat. Mus.* vi. p. 386 (1884).

Geococcyx erythropygia, *Schl. Mus. Pays-Bas*, Cuculi, p. 42 (1864).

*Adult.* Forehead and crown mottled, the feathers being dark brownish purple with pale edges ; mantle rather pale brown glossed with lilac ; back brownish black, with rufous edges to the feathers ; remainder of the wing greener than the mantle and very strongly glossed with olive ; upper tail-coverts and tail bronzy lilac, mostly composed of narrow obscure bars of green and lilac ; the tail-feathers, with the exception of the centre ones, with narrow white ends ; a bare patch round the eye, surrounded by a band of black feathers, extending backwards to behind the ear-coverts, which itself is surmounted by a whitish eyebrow ; beneath rufous buff, with pale glossy shafts to the feathers of the chin and upper throat ; sides of the body strongly shaded with rufous ; under tail-coverts dusky, edged with chestnut ; under wing-coverts rufous

buff mottled with grey: under surface of the quills uniform slaty-brown: bill yellow, passing into horny-brown round the nostrils and culmen; legs pale brown. Total length 10·1 inches, culmen 0·9, wing 3·9, tail 5·7, tarsus 1·4.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a.* Ad. sk. | Mexico. | Purchased. |
| *b.* ♀ ad. sk. | San Blas, Terr. of Tepic, Mexico, May (*W. B. Richardson*). | Salvin-Godman Coll. |
| *c, d.* ♂ ad.: *e, f.* ♀ ad. sk. | Plains of Colima, Jan. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *g, h, i.* Ad. sk. | Acapulco, State of Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *k.* Pull. sk. | Dos Arroyos (1000 ft.), State of Guerrero, Sept. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *l.* Ad. sk. | Sierra Madre del Sur (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *m.* ♀ ad. sk. | San Juan, S. Mexico (*Rébouch*). | Salvin-Godman Coll. |
| *n.* ♀ ad. sk. | Sierra S. Domingo, Tehuantepec, April (*W. B. Richardson*). | Salvin-Godman Coll. |
| *o.* ♀ ad. sk. | Chimalpa, Tehuantepec, March (*W. B. Richardson*). | Salvin-Godman Coll. |
| *p, q, r.* Ad. sk. | Tehuantepec, Feb. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *s.* Ad. sk. | Guatemala. | Sclater Coll. |
| *t.* Ad. sk. | Laguna, Guatemala, Feb. (*O. S.*). | Salvin-Godman Coll. |
| *u.* Ad. sk. | Rio Motagua, Guatemala, Feb. (*O. S.*). | Salvin-Godman Coll. |
| *v, w.* Ad. sk. | Costa Rica (*J. Carmiol*). | Salvin-Godman Coll. |

## Subfamily V. DIPLOPTERINÆ.

*Key to the Genera.*

*a.* Bill short, compressed, arched; rectrices narrow; upper tail-coverts reaching to the middle of the tail ..... 39. DIPLOPTERUS, p. 423.

*b.* Bill more slender, not compressed, straighter; rectrices wide; upper tail-coverts reaching to the end of the tail. 40. DROMOCOCCYX, p. 425.

### 39. DIPLOPTERUS.

Type.

Diplopterus, *Boie, Isis*, 1826, p. 977 ..... D. nævius.

*Range.* Central America and the greater part of South America.

#### 1. Diplopterus nævius.

Le Coucou tacheté de Cayenne, *Briss. Orn.* iv. p. 127, pl. 9. fig. 1 (1760); *Daub. Pl. Enl.* vi. 812.

Cuculus nævius, *Linn. Syst. Nat.* i. p. 170 (1766) ; *Vieill. Nouv. Dict.* viii. p. 271 (1817).
Cuculus punctulatus, *Gm. Syst. Nat.* i. p. 414 (1788).
Chochi, *Azara, Apunt.* (1) ii. p. 266 (1805) : *Hartl. Syst. Index Azara,* p. 17 (1847).
Chirri, *Azara, Apunt.* (1) ii. p. 269 (1805) ; *Hartl. Syst. Index Azara,* p. 17 (1847).
Cuculus galeritus, *Ill. Abhandl. Berlin Ac.* 1812, p. 224.
Coccyzus chochi, *Vieill. Nouv. Dict.* viii. p. 272 (1817) ; *id. Enc. Méth.* p. 1345 (1823).
Coccyzus chiriri, *Vieill. Nouv. Dict.* viii. p. 273 (1817) ; *id. Enc. Méth.* p. 1345 (1823).
Coccyzus punctulatus, *Vieill. Nouv. Dict.* viii. p. 277 (1817).
Coccyzus ruficapillus, *Vieill. Nouv. Dict.* viii. p. 278 (1817) ; *id. Enc. Méth.* p. 1349 (1823).
Coccyzus septorum, *Vieill. Enc. Méth.* p. 1343 (1823).
Coccyzus nævius, *Vieill. Enc. Méth.* p. 1344 (1823) ; *Neuwied, Beitr. Naturg. Bras.* iv. p. 341 (1832) ; *Temm. Tabl. Méth.* p. 53 (1838) ; *Pucher. Rev. et Mag. Zool.* 1852, p. 564.
Diplopterus nævius, *Boie, Isis,* 1826, p. 977 ; *Gambel, Journ. Ac. Philad.* 1849, p. 217 ; *Bp. Consp.* p. 109 (1850) ; *Lawr. Ann. Lyc. N. York.* vii. p. 300 (1861) ; *Burm. Thier. Bras.* ii. p. 261 (1855) ; *Scl. Cat. Amer. B.* p. 321 (1862) ; *Léotaud, Ois. Trinidad,* p. 343 (1866) ; *Gray, Hand-l. B.* ii. p. 209, no. 8902 (1870) ; *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873) ; *Nutting, Proc. U.S. Nat. Mus.* vi. p. 376 (1883), vii. p. 387 (1884) ; *Ridgw. t. c.* p. 173 ; *Tacz. Orn. Pérou,* iii. p. 184 (1886) ; *Sclater & Hudson, Argent. Orn.* p. 35 (1889).
Piaya nævia, *Less. Traité,* p. 143 (1831).
Diplopterus galeritus, *Cab. in Schomb. Reise,* iii. p. 713 (1848) : *Burm. Thier. Bras.* ii. p. 262 (1856).
Diplopterus lessoni, *Bp. Consp.* i. p. 109 (1850) ; *Gray, Hand-l. B.* ii. p. 209, no. 8903 (1870).
Diplopterus excellens, *Scl. Cat. Amer. B.* p. 321 (1862) ; *Gray, Hand-l. B.* ii. p. 209, no. 8905 (1870).
Diplopterus chochi, *Gray, Hand-l. B.* ii. p. 209, no. 8904 (1870).

*Adult male.* General plumage above pale brown, with dark blackish centres to the feathers ; forehead and crown chestnut, with broad brownish-black shaft-streaks to the feathers, bordered by a broad buff eyebrow, which extends back to the sides of the nape ; nape and mantle fulvous-brown with dark shaft-streaks, broadest towards the ends of the feathers ; wing-coverts and scapulars very similar, being dark brown with broad pale brown or rufous-buff edges ; lower back and upper tail-coverts more rufous-buff with dark shaft-bands ; tail more uniform brown, inclining to buff at the edges and to white at the ends of the feathers ; ear-coverts dark brown with slightly paler edges ; under surface of the body white, shading into buff on the throat, chin, under tail-coverts, and thigh-coverts ; under surface of the wings white, with the terminal half of the quills dusky brown : iris brown ; bill yellowish, with a portion towards the culmen dark brown ; legs brown. Total length 11·2 inches, culmen 0·75, wing 4·5, tail 7, tarsus 1·35.

*Adult female.* Similar in plumage to the male. Total length 11·2 inches, culmen 1·85, wing 4·3, tail 6·7, tarsus 1·3.

*Young.* Differs from the adult in having the feathers of the crown, wings, and tail-coverts tipped with buff.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a.* Ad. sk. | Mexico. | Sclater Coll. |
| *b.* Ad. sk. | Playa Vicente, Vera Cruz, Dec. (*M. Truxillo*). | Salvin-Godman Coll. |
| *c, d, e.* ♂ ad.; *f.* ♀ ad. sk. | Teapa, Tabasco, Feb., March (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *g.* ♀ imm. sk. | Retalhuleu, Guatemala (*O. S.*). | Salvin-Godman Coll. |
| *h.* Ad. sk. | Dueñas, Oct. (*O. S.*). | Salvin-Godman Coll. |
| *i.* Ad. sk. | San Mateo, Costa Rica, April (*T. Cooper*). | Salvin-Godman Coll. |
| *k.* Ad. sk. | La Barranca, Nicoya, Costa Rica, March (*E. Arcé*). | Salvin-Godman Coll. |
| *l–q.* Ad. sk. | Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *r–u.* Ad. sk. | Panama (*J. McLeannan & A. Hughes*). | Salvin-Godman Coll. |
| *v, w.* ♂ ad. et imm. sk. | Medellin, Antioquia (*T. K. Salmon*). | Seebohm Coll. |
| *x.* Ad. sk. | Bogota. | Sclater Coll. |
| *y.* Ad. sk. | Babahoyo, Ecuador (*L. Fraser*). | Sclater Coll. |
| *z, a'.* Ad. sk. | Balzar Mts., Ecuador (*Illingworth*). | Salvin-Godman Coll. |
| *b'.* Ad. sk. | Caracas, Venezuela. | Mrs. Johnson [P.]. |
| *c'.* Ad. sk. | George Town, Demerara. | Salvin-Godman Coll. |
| *d', e'.* ♂ ad. sk. | Bartica Grove, British Guiana, Oct., Jan. (*H. Whitely*). | Salvin-Godman Coll. |
| *f', g', h'.* Ad. sk. | Trinidad. | Zoological Society. |
| *i'.* Juv. st. | Cayenne. | Purchased. |
| *k'.* ♂ ad. sk. | Para, Sept. (*E. L. Layard*). | Tweeddale Coll. |
| *l'.* Ad. sk. | Island of Mexiana, Nov. (*A. R. Wallace*). | Salvin-Godman Coll. |
| *m', n'.* Ad. sk. | Pernambuco (*W. A. Forbes*). | Salvin-Godman Coll. |
| *o'.* ♂ ad. sk. | Ypanema, Dec. (*J. Natterer*). | Salvin-Godman Coll. |
| *p'–s'.* Ad. et juv. sk. | Bahia (*Dr. Wucherer*). | Salvin-Godman Coll. |
| *t'.* Ad. sk. | Novo Fribourgo, Rio de Janeiro (*J. Youds*). | Salvin-Godman Coll. |
| *u'.* Ad. sk. | Rio Claro, Prov. Goyaz (*Joyner*). | Salvin-Godman Coll. |
| *v', w', x'.* ♂ ♀ ad. et imm. sk. | Chapada, Matto Grosso, May, June, Oct. (*H. H. Smith*). | Salvin-Godman Coll. |
| *y'–c''.* Ad. sk. | Brazil. | |
| *d''.* Ad. sk. | Bolivia (*Bridges*). | Seebohm Coll. |

## 40. DROMOCOCCYX.

| | Type. |
|---|---|
| Dromococcyx, *Wied, Beitr. Naturg. Bras.* iv. p. 351 (1832) | D. phasianellus. |
| Geotacco, *Verr. Rev. et Mag. de Zool.* 1849, p. 277 | D. phasianellus. |

*Range.* From Mexico, through Central America to Colombia, and thence to Brazil.

*Key to the Species.*

*a*. Upper parts browner; throat spotted ..... *phasianellus*, p. 425.
*b*. Upper parts blacker: throat without spots .... *pavoninus*, p. 427.

## 1. Dromococcyx phasianellus.

Macropus phasianellus, *Spix*, *Av. Bras.* i. p. 53, pl. 42 (1824).
Coccyzus phasianellus, *Steph. Gen. Zool.* xiv. p. 206 (1826).
Dromococcyx phasianellus, *Neuwied*, *Beitr. Naturg. Bras.* iv. p. 353 (1832); *Sel. Cat. Amer. B.* p. 321 (1862); *Salvin*, *Ibis*, 1868, p. 486; *Sel. & Salv. Nomencl. Av. Neotr.* p. 107 (1873).
Diplopterus phasianellus, *Gray*, *Gen. B.* ii. p. 456 (1847); *id. Hand-l. B.* ii. p. 209, no. 8906 (1870).
Geotacco macrourus, *Verr. Rev. et Mag. de Zool.* 1849, p. 277.
Dromococcyx mexicanus, *Bp. Compt. Rend.* xlii. p. 957 (1856); *Sel. Cat. Amer. B.* p. 321 (1862).
Dromococcyx rufigularis, *Lawrence*, *Proc. Ac. Philad.* 1867, p. 233.
Diplopterus rufigularis, *Gray*, *Hand-l. B.* ii. p. 209, no. 8908 (1870).
Diplopterus mexicanus, *Gray*, *Hand-l. B.* ii. p. 209, no. 8907 (1870).

*Adult male.* General plumage above dark brown, with a slight green and lilac gloss; forehead dark brown, passing into bright rufous on the occipital crest; feathers of the mantle and wings with partial pale edges, occasionally forming whitish spots on some of the feathers of the wings; upper tail-coverts and tail with small white ends to the feathers; a bare patch round the eye, from behind which a broad white eyebrow extends down the sides of the nape; ear-coverts and sides of the neck dark brown: chin, breast, and under tail-coverts white, shaded with rufous-buff on the centre and lower throat, where each feather has a blackish shaft-stripe widening into subterminal spots; under surface of the quills dark brown, with the base of the feathers and a partial bar white, like the under wing-coverts: iris brown; upper mandible dark brown, paler towards the edges of the gape: lower mandible yellowish; legs pale. Total length 14·7 inches, culmen 1, wing 6·7, tail 9, tarsus 1·35.

*Adult female.* Similar in plumage to the male. Total length 14 inches, culmen 0·9, wing 6·3, tail 9, tarsus 1·25.

*Hab.* From Mexico, throughout Central America, to Colombia, and thence to Brazil.

| | | |
|---|---|---|
| *a*. Ad. sk. | Central America. | Seebohm Coll. |
| *b*, *c*. Ad. sk. | Jalapa (*de Oca*). | Salvin-Godman Coll. |
| *d*. Ad. sk. | Buctzotz, Yucatan (*G. T. Gaumer*). | Salvin-Godman Coll. |
| *e*, *f*. Ad. sk. | Guatemala. | Sclater Coll. |
| *g*, *h*. Ad. sk. | Coban, Jan., Feb. (*O. S.*). | Salvin-Godman Coll. |
| *i*, *k*, *l*. Ad. sk. | Panama (*J. McLeannan & A. Hughes*). | Salvin-Godman Coll. |
| *m*, *n*. Ad. et juv. sk. | Bogota. | Seebohm Coll. |
| *o*, *p*. Ad. sk. | Brazil. | Sclater Coll. |
| *q*. Ad. st. | Brazil. | M. Claussen [P.]. |

| | | |
|---|---|---|
| *r*. ♀ ad. sk. | Chapada, Matto Grosso, Nov. (*H. H. Smith*). | Salvin-Godman Coll. |
| *s–x*. Ad. et imm. sk. | Bahia (*Dr. Wucherer*). | Seebohm Coll. |
| *y*. ♀ ad. sk. | Araguay, Oct. (*J. Natterer*). | Salvin-Godman Coll. |

### 2. Dromococcyx pavoninus.

Dromococcyx phasianellus (*nec Spix*), *Burm. Syst. Th. Bras.* ii. p. 260 (1855).

Diplopterus pavoninus, *Pelz. Orn. Bras.* p. 270 (1871); *Gray, Hand-l. B.* ii. p. 209, no. 8909 (1870).

*Adult male.* Similar to *D. phasianellus*, but differing in the back of the neck, mantle, wing- and tail-coverts being black instead of brown, and the chin and throat being uniform rufous-buff with no dark markings. Total length 9·3 inches, culmen 0·9, wing 5·5, tail 5·5, tarsus 1·15.

*Adult female.* Similar in plumage to the male. Total length 11·2 inches, culmen 0·9, wing 5·2, tail 6·8, tarsus 1·1.

*Young.* Differs from the adult in having the upper parts, including the upper half of the head, nearly uniform black, with broad rufous-buff shaft-stripes on most of the wing-coverts; throat dusky, chin nearly white. Total length 9·8 inches, culmen 0·85, wing 4·8, tail 6, tarsus 1·1.

*Hab.* Guiana to the Rio Negro.

| | | |
|---|---|---|
| *a*, *b*. ♂ ♀ ad. et imm. sk. | Roraima, British Guiana, Jan., June (*H. Whitely*). | Salvin-Godman Coll. |
| *c*. Ad. sk. | Cayenne. | Purchased. |
| *d*. ♂ ad. sk. | Arimani, June (*J. Natterer*). | Sclater Coll. |

## Subfamily VI. CROTOPHAGINÆ.

*Key to the Genera.*

| | |
|---|---|
| *a*. Bill very deep and compressed; culmen raised above the level of the forehead. With no crest. Plumage black ..... | 41. CROTOPHAGA, p. 427. |
| *b*. Bill slender, about as deep as it is broad. With a crest of long narrow feathers. Nostrils nearly horizontal, of an elongated oval shape, overhung by a membrane ..... | 42. GUIRA, p. 433. |

### 41. CROTOPHAGA.

Type.

Crotophaga, *Linn. Syst. Nat.* i. p. 154 (1766) ..... C. ani.

*Range.* Southern United States; Central and Southern America; Antilles.

*Key to the Species.*

*a*. Larger and greener; wing 8 inches in length, externally glossed with green or steel-blue..... *major*, p. 428.
*b*. Smaller; glossed with bronze or steel-black; wing not exceeding 6·5 inches, glossed externally with violet.
*a'*. Culmen with a high narrow ridge; sides of the bill smooth, without grooves or ridges ..... *ani*, p. 429.
*b'*. Culminal ridge not so high; sides of bill with several distinct sulcations or grooves following the line of the culmen ..... *sulcirostris*, p. 432.

## 1. Crotophaga major.

Le Grand Bout-de-Petun, *Briss. Orn.* iv. p. 180 (1760); *Daubent. Pl. Enl.* vi. pl. 102. fig. 1.
L'Ani des Palétuviers, *Buff. Hist. Nat.* vi. p. 423 (1779).
Greater Ani, *Lath. Gen. Syn.* i. p. 362 (1781).
Crotophaga major, *Gm. Syst. Nat.* i. p. 363 (1788); *Less. Traité*, p. 319 (1831); *Neuwied, Beitr. Naturg. Bras.* iv. p. 319 (1832); *Tschudi & Cab. Faun. Peruan.* pp. 40, 256 (1844–45); *Gray, Gen. B.* ii. p. 458 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 712 (1848); *Bp. Consp.* i. p. 99 (1850); *Burm. Th. Bras.* ii. p. 253 (1855); *Scl. P. Z. S.* 1857, p. 268; *id. Cat. Amer. B.* p. 320 (1862); *Cab. & Heine, Mus. Hein.* Th. iv. p. 99 (1862); *Taylor, Ibis*, 1864, p. 93; *Schl. Mus. Pays-Bas*, Cuculi, p. 47 (1864); *Léotaud, Ois. Trinidad*, p. 358 (1866); *Scl. & Salv. P. Z. S.* 1866, p. 195, 1867, p. 585; *Finsch, P. Z. S.* 1870, p. 587; *Gray, Hand-l. B.* ii. p. 210, no. 8912 (1870); *Pelz. Orn. Bras.* p. 268 (1871); *Wyatt, Ibis*, 1871, p. 379; *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *iid. P. Z. S.* 1879, p. 536; *Salv. Cat. Strickl. Coll.* p. 443 (1882); *Tacz. Orn. Pérou*, iii. p. 180 (1886).
Anno Guazu, *Azara, Apunt.* ii. p. 348 (1805); *Hartl. Ind. Azara*, p. 17 (1847).
Crotophaga americanus, *Shaw, Gen. Zool.* viii. p. 380, pl. 51 (1812).
Crotophaga ani (*nec Linn.*), *Vieill. Gal. Ois.* i. p. 35, pl. 43 (1825).

*Adult male*. Glossy blue-black, all the feathers of the head, neck, mantle, and breast with metallic green edges; feathers of head and neck somewhat lanceolate in shape, lax and divided at the ends; mantle more scale-like in appearance, and on the breast the blue and green colouring more diffused; remainder of the wings more uniform greenish steel-blue; lower back, upper tail-coverts, and tail nearly uniform violet-blue; under surface of the wings glossy steel-green; lores and region of eye bare; "bill, feet, and bare skin of eye blackish; iris beautiful light green, with a narrow yellow ring round the pupil" (*Neuwied*). Total length 18 inches, culmen 1·85, wing 8, tail 10, tarsus 1·65.

*Adult female*. Similar to the male in colour. Total length 19·5 inches, culmen 1·75, wing 7·9, tail 10·7, tarsus 1·65.

The *young* has a smaller casque to the bill, is duller in colour, with less metallic gloss, and has the iris dark brown (*Natterer*).

*Hab.* South America, from Colombia to Peru; throughout the valley of the Amazon, northwards to Guiana and Trinidad; unknown in Venezuela; throughout Brazil, as far south as La Plata.

| | | |
|---|---|---|
| *a*. Ad. st.; *b*. Ad. sk. | South America. | J. Gould, Esq. |
| *c*. Ad. sk. | South America. | Hardwicke Bequest. |
| *d*. ♂ ad. sk. | Nichi, U.S. Colombia (*T. K. Salmon*). | Salvin-Godman Coll. |
| *e*, *f*. ♂ ♀ ad. sk. | Medellin, Antioquia (*T. K. Salmon*). | Seebohm Coll. |
| *g*. Ad. sk. | Sarayacu, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *h*. Ad. st. | British Guiana. | Royal Geographical Society. |
| *i*, *k*. ♂ ♀ ad. sk. | Aunai, British Guiana, July (*H. Whitely*). | Salvin-Godman Coll. |
| *l*. Ad. sk. | Trinidad. | Sclater Coll. |
| *m*. ♀ ad sk. | Rio Capim, June (*A. R. Wallace*). | Sclater Coll. |
| *n*. Ad. sk. | Upper Ucayali, Amazons (*E. Bartlett*). | Seebohm Coll. |
| *o*, *p*. ♂ ♀ ad. sk. | Samiria, Nov. (*J. Haucwell*). | Salvin-Godman Coll. |
| *q*, *r*, *s*. ♂ ad.; *t*, *u*. ♀ ad. sk. | Yquitos, Peru, March, Aug.–Oct. (*H. Whitely*). | Seebohm Coll. |
| *v*, *w*. ♂ ♀ ad. sk. | Matto Grosso, Feb. (*H. H. Smith*). | Salvin-Godman Coll. |
| *x*, *y*. Ad. sk. | Brazil. | Sclater Coll. |
| *z*, *a'*. Ad. sk. | Bahia, Brazil (*Dr. Wucherer*). | Salvin-Godman Coll. |
| *b'*. Skeleton. | Santa Cruz, Peruvian Amazons. | E. Bartlett, Esq. [P.]. |

## 2. Crotophaga ani.

Le Bout-de-Petun, *Briss. Orn.* iv. p. 177, pl. 18. fig. 1 (1760).

Razor-billed Blackbird, *Catesby, N. H. Carol.* ii. App. p. 3, pl. 3 (1763).

Crotophaga ani, *Linn. Syst. Nat.* i. p. 154 (1766); *Lath. Ind. Orn.* i. p. 148 (1790); *Vieill. & Oud. Gal. Ois.* i. p. 35, pl. 43 (1825); *d'Orb. Hist. Nat. Cuba*, iii. p. 116 (1839); *Neuwied, Beitr. Naturg. Bras.* iv. p. 314 (1845); *Gosse, B. Jamaica*, p. 282 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 713 (1848); *Bp. Consp. Av.* i. p. 99 (1850); *Burm. Th. Bras.* ii. p. 254 (1856); *Scl. P. Z. S.* 1857, p. 234; *A. & E. Newton, Ibis*, 1859, pp. 148, 378, pl. 12. fig. 5; *Cass. Proc. Philad. Acad.* 1860, p. 377; *Baird, B. N. Amer.* p. 72, pl. 84. fig. 2 (1860); *Scl. P. Z. S.* 1860, p. 285, 1861, p. 79; *id. Cat. Amer. B.* p. 320 (1860); *Cab. & Heine, Mus. Hein.* Th. iv. p. 100 (1862); *Schl. Mus. P.-L.* Cuculi, p. 47 (1863); *E. C. Taylor, Ibis*, 1864, p. 92; *Léotaud, Orn. Trinidad*, p. 355 (1866); *Scl. & Salv. P. Z. S.* 1864, p. 366; *iid. P. Z. S.* 1866, p. 195, 1867, p. 585, 1869, p. 598; *Sundev. Œfv. K. Vet.-Ak. Förh.* 1869, p. 600; *Salv. P. Z. S.* 1870, p. 211; *Gray, Hand-l. B.* ii. p. 210, no. 8911 (1870); *Wyatt, Ibis*, 1871, p. 379; *Pelz. Orn. Bras.* p. 269 (1871); *Hamilton, Ibis*, 1871, p. 307; *Scl. P. Z. S.* 1871, p. 273; *Coues, Key N. Amer. B.* p. 189 (1872); *Layard, Ibis*, 1872, p. 337; *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *iid. P. Z. S.* 1873, p. 296; *Layard, Ibis*, 1873, p. 392; *Scl. & Salv. P. Z. S.* 1876, p. 17; *Baird, Brewer, & Ridgw. N. A. B.* ii. p. 488 (1874); *Lawr. Proc. U. S. Nat. Mus.* i. p. 193 (1878); *id. tom. cit.* pp. 273, 449, 487 (1879); *Scl. & Salv. P. Z. S.* 1879, p. 536; *Ridgw. Proc. U.S. Nat. Mus.* iii. p. 231 (1880); *Cory, B. Bahamas*, p. 118 (1880); *Allen, Bull. Nutt. Orn. Club*, v. p. 169 (1880); *Cory, op. cit.* vi. p. 54 (1881);

*White, P. Z. S.* 1882, p. 619; *Coues, Key N. Amer. B.* (2nd ed.) p. 472, fig. 323 (1884); *Cory, B. S. Domingo*, p. 100 (1884); *Ridgw. Proc. U. S. Nat. Mus.* vii. p. 172 (1884); *id. op. cit.* viii. p. 577 (1885); *Tacz. & Berl. P. Z. S.* 1885, p. 108; *Berl. & Ihering, Zeitschr. ges. Orn.* ii. p. 161 (1885); *Cory, Auk*, 1886, p. 361; *Tacz. Orn. Pérou*, iii. p. 180 (1886); *A. O. U. Check-l.* p. 206 (1886); *Wells, Proc. U.S. Nat. Mus.* x. p. 261 (1887); *Cory, Auk*, 1887, p. 96; *Ridgw. Man. N. Am. B.* p. 272 (1887); *Sclater & Hudson, Argent. Orn.* ii. p. 31 (1889); *Scl. P. Z. S.* 1889, p. 395; *Salvin, Ibis*, 1889, p. 372, 1890, p. 88.

? Crotophaga ambulatoria, *Linn. Syst. Nat.* i. p. 155 (1766); *Wald. Ibis*, 1869, p. 327.

Petit Bout-de-Petun, *Daubent. Pl. Enl.* vi. pl. 102. fig. 2.

Lesser Ani, *Lath. Gen. Syn.* i. p. 360, pl. xiii. (1781).

L'Ani des Savanes, *Buff. Hist. Nat. Ois.* vi. p. 420 (1789).

The Savanna Blackbird, *Browne, Nat. Hist. Jamaica*, p. 474 (1789).

Anno, *Azara, Apunt.* ii. p. 344 (1805); *Hartl. Ind. Azara*, p. 17 (1847).

Crotophaga minor, *Less. Traité*, p. 130 (1831).

Crotophaga rugirostra, *Swains. An. in Menag.* p. 321, fig. 65 *b* (1837); *Jard. & Selby, Ill. Orn.* (n. s.) pl. xli. (1843); *Gray, Gen. B.* ii. p. 458 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 713 (1848); *Bp. Consp. Av.* i. p. 99 (1850); *Burm. Th. Bras.* ii. p. 255 (1856); *Baird, B. N. Amer.* p. 71, pl. 84. fig. 1 (1860).

Crotophaga lævirostra, *Swains. An. in Menag.* p. 321, fig. 65 *a* (1837); *Gray, Gen. B.* ii. p. 458 (1845); *Bp. Consp. Av.* i. p. 99 (1850).

*Adult.* Black, with metallic edges to the feathers of the head, neck, mantle, and breast: the edges of the feathers of the head and neck of a more coppery bronze shade, and striped on the head and throat, owing to the feathers being narrow and forked; on the mantle and chest the margin becomes arched and of a steel-blue shade; back nearly uniform black; wings and tail more shaded with violet and blue; under surface of the body, as well as the under tail- and wing-coverts, tinted with violet; under surface of the quills glossy blue-black shaded with green; a large bare patch round eye connected with the bill: bill and legs black; iris hazel. Total length 12·5 inches, length of bill in a straight line 1·15, wing 5·4, tail 6·6, tarsus 1·25.

*Hab.* Southern United States, Central America, and West Indian Islands, extending over a great portion of South America.

| | | |
|---|---|---|
| *a, b, c.* ♂ ad. sk. | St. Vincent, W. I., Feb., Oct. (*F. A. Ober*). | Salvin-Godman Coll. |
| *d, e.* Ad. sk. | Santa Lucia (*Semper*). | Sclater Coll. |
| *f.* ♂ ad. sk. | Santa Lucia, March (*Ramage*). | West Indian Committee Brit. Assoc. |
| *g, h.* ♂ ♀ ad. sk. | Tortola, Nov. (*C. S. Winch*). | Salvin-Godman Coll. |
| *i, k.* ♂ ♀ ad. sk. | Virgin Gorda, Dec. (*C. S. Winch*). | Salvin-Godman Coll. |
| *l–o.* Ad. sk. | Puerto Rico, Oct. (*Dr. Bryant*). | Salvin-Godman Coll. |
| *p, q.* ♂ ad. sk. | Puerto Plata, S. Domingo, Dec., June (*C. B. Cory*). | Salvin-Godman Coll. |
| *r, s.* Ad. sk. | Haiti. | Baron Maltzam [C.]. |
| *t, u.* ♂ ad. sk. | St. Croix, Jan., July (*O. S.*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *v*, *w*. Ad. sk. | San Cristobal, Cuba (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *x*, *y*. ♀ ad. sk. | Grand Cayman, July (*W. B. Richardson*). | Salvin-Godman Coll. |
| *z*, *a'*. Ad. sk. | Bahamas (*Blake*). | Sclater Coll. |
| *b'*, *c'*. Ad. sk. | Jamaica. | Sclater Coll. |
| *d'*–*k'*. Ad. sk. | Cozumel Island (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *l'*. Ad. sk. | Holbox Island, Dec. (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *m'*–*r'*. Ad. sk. | Ruatan Island (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *s'*. Ad. sk. | Merida, N. Yucatan, Feb. (*E. C. I. Devis*). | Salvin-Godman Coll. |
| *t'*, *u'*, *v'*. ♂ ad. sk. | Mina de Chorcha, Chiriqui (*E. Arcé*). | Salvin-Godman Coll. |
| *w'*, *x'*, *y'*. ♂ ♀ ad. sk. | Isthmus of Panama (*J. McLeannan*). | Salvin-Godman Coll. |
| *z'*, *a''*. ♂ ad. sk. | Medellin, Antioquia (*T. K. Salmon*). | Seebohm Coll. |
| *b''*. ♂ ad. sk. | U.S. Colombia. | Salvin-Godman Coll. |
| *c''*. Ad. sk. | Bogota. | Sclater Coll. |
| *d''*, *e''*. Ad. et juv. sk. | Santa Rita, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *f''*. Ad. sk. | Babahoyo, Ecuador (*L. Fraser*). | Sclater Coll. |
| *g''*. ♀ ad. sk. | Chanchamayo, Peru, Aug. (*H. Whitely*). | Seebohm Coll. |
| *h''*. ♂ ad. sk. | Yquitos, Peru, March 12 (*H. Whitely*). | Seebohm Coll. |
| *i''*. ♂ ad. sk. | Cosnipata, Peru, May 6 (*H. Whitely*). | Seebohm Coll. |
| *k''*, *l''*, *m''*. ♀ ad. sk. | Maranura, Peru, Sept. (*H. Whitely*). | Seebohm Coll. |
| *n''*. ♀ ad. sk. | Potrero, Peru, Dec. 5 (*H. Whitely*). | Seebohm Coll. |
| *o''*. Ad. sk. | Bolivia. | Sclater Coll. |
| *p''*. ♀ ad. sk. | Oran, Salta, Arg. Rep., Nov. 12 (*E. W. White*). | Forbes Coll. |
| *q''*–*t''*. Ad. sk. | Brazil. | Lord Stuart de Rothesay [P.]. |
| *u''*. ♂ ad. sk. | Rio Claro, Prov. Goyaz, S. Brazil (*Joyner*). | Salvin-Godman Coll. |
| *v''*, *w''*. Ad. sk. | Bahia (*Dr. Wucherer*). | Salvin-Godman Coll. |
| *x''*–*a*$^{3}$. ♂ ♀ ad. sk. | Chapada, Matto Grosso, July, Aug., Oct. (*H. H. Smith*). | Salvin-Godman Coll. |
| *b*$^{3}$, *c*$^{3}$. Ad. sk. | Pernambuco (*W. A. Forbes*). | Salvin-Godman Coll. |
| *d*$^{3}$. Ad. sk. | Céara, N. Brazil (*W. Jesse*). | Salvin-Godman Coll. |
| *e*$^{3}$. ♀ ad. sk. | Para, Lower Amazons, Aug. 5 (*E. L. Layard*). | Tweeddale Coll. |
| *f*$^{3}$, *g*$^{3}$. Ad. sk. | Island of Mexiana, Nov. (*A. R. Wallace*). | Salvin-Godman Coll. |
| *h*$^{3}$. Ad. sk. | British Guiana. | Seebohm Coll. |
| *i*$^{3}$, *k*$^{3}$. Ad. sk. | Bartica Grove, British Guiana, Jan. & Sept. (*H. Whitely*). | Salvin-Godman Coll. |
| *l*$^{3}$. Sternum. | Jamaica. | Philip Gosse, Esq. [C.]. |

### 3. Crotophaga sulcirostris.

Crotophaga sulcirostris, *Swains, Philos. Mag.* (n. s.) i. p. 440 (1827); *Gray, Gen. B.* ii. p. 458 (1845); *Cass. Proc. Philad. Acad.* 1848, p. 91; *Bp. Consp. Av.* i. p. 99 (1850); *Scl. P. Z. S.* 1856, p. 309; *Moore, P. Z. S.* 1859, p. 59; *Scl. t. c.* pp. 368, 388; *Scl. & Salv. Ibis*, 1859, p. 135; *Scl. P. Z. S.* 1860, pp. 285, 297; *G. C. Taylor, Ibis*, 1860, p. 118; *Scl. Cat. Amer. B.* p. 320 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 101 (1862); *Schl. Mus. P.-B.* Cuculi, p. 47 (1863); *Scl. & Salv. P. Z. S.* 1867, p. 280, 1868, p. 175, 1869, p. 148; *Salv. P. Z. S.* 1870, p. 211; *Scl. & Salv. t. c.* p. 837; *Gray, Hand-l. B.* ii. p. 210, no. 8913 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 107 (1873); *Taczan. P. Z. S.* 1874, p. 548, 1877, pp. 328, 753; *Boucard, P. Z. S.* 1878, p. 47; *Taczan. P. Z. S.* 1879, p. 240, 1880, p. 210; *Ridgw. Proc. U. S. Nat. Mus.* iii. pp. 219, 233 (1880); *Nutting, op. cit.* v. pp. 401, 498, 546 (1882); *id. op. cit.* vi. pp. 376, 387, 395 (1883); *Boucard, P. Z. S.* 1883, p. 454; *Salv. P. Z. S.* 1883, p. 426; *Coues, Key N. Am. B.* p. 472 (1884); *Taczan. & Berl. P. Z. S.* 1885, p. 118; *A. O. U. Check-l.* p. 207 (1886); *Taczan. Orn. Pérou*, iii. p. 181 (1886); *Ferrari-Perez & Ridgw. Proc. U.S. Nat. Mus.* ix. p. 162 (1887); *Ridgw. Man. N. Amer. B.* p. 272 (1887); *Lloyd, Auk*, 1887, p. 190; *Salvin, Ibis*, 1889, p. 372.

Crotophaga casasii, *Less. Voy. Coquille*, i. p. 619 (1826); *id. Man. Orn.* ii. p. 134 (1828); *id. Cent. Zool.* pl. 11 (1830); *Tschudi & Cab. Faun. Peruan., Aves*, p. 41 (1855).

Crotophaga sulcirostra, *Swains. An. in Menag.* p. 322 (1837).

Crotophaga semisulcata, *Swains. An. in Menag.* p. 346 (1837).

Crotophaga sulcata, *Licht. in Mus. Berol.* (*teste Cab. & Heine, Mus. Hein.* iv. p. 101).

Crotophaga rugirostris (*nec Sw.*), *Scl. P. Z. S.* 1858, p. 359.

*Adult.* Similar in plumage to *C. ani*, but differs in the bill, which has three or four ridges on the upper mandible parallel to the culmen, and a few straight ridges on the lower mandible. Total length 13·4 inches, culmen 1·1, wing 5·7, tail 8·3, tarsus 1·3.

*Nestling.* Black, glossed on the wings and tail with violet-blue.

*Hab.* Rio Grande Valley and Central America from Mexico to Panama, extending into Colombia, Ecuador, and Peru.

| | | |
|---|---|---|
| *a, l.* ♂ ♀ ad. sk. | Brownsville, Texas, Jan., April, May (*F. B. Armstrong*). | Salvin-Godman Coll. |
| *m, n.* Ad. sk. | Mexico. | Purchased. |
| *o.* Ad. sk. | Mazatlan, Feb. (*F. Bischoff*). | Salvin-Godman Coll. |
| *p, q.* ♂ ♀ ad. sk. | Presidio de Mazatlan, Dec. (*A. Forrer*). | Salvin-Godman Coll. |
| *r.* ♂ ad. sk. | San Blas, Terr. of Tepic, April (*W. B. Richardson*). | Salvin-Godman Coll. |
| *s, t.* ♂ ♀ ad. sk. | Bolaños, Jalisco, Feb. (*W. B. Richardson*). | Salvin-Godman Coll. |
| *u–y.* ♂ ♀ ad. et imm. sk. | Santana, Guadalajara, Jalisco, Feb., March (*W. Lloyd*). | Salvin-Godman Coll. |
| *z, a'.* ♂ ♀ ad. sk. | Santiago, Manzanillo, Colima, June (*W. Lloyd*). | Salvin-Godman Coll. |
| *b', c', d'.* ♂ ad. sk. | Putla, May, Sept. (*Rébouch*). | Seebohm Coll. |
| *e', f'.* ♂ ♀ ad. sk. | Epatlan, Canton de Matamoros, Nov. (*Ferrari-Perez*). | Salvin-Godman Coll. |
| *g'–x'.* ♂ ♀ ad. sk. | Nuevo Leon, May, June (*W. B. Armstrong*). | Salvin-Godman Coll. |

| | | |
|---|---|---|
| *y'*. ♂ ad. sk. | Tehuantepec, March 1 (*W. B. Richardson*). | Salvin-Godman Coll. |
| *z'*, *a''*. ♂ ♀ ad. sk. | Sierra Madre, above Ciudad Victoria, April, May (*W. B. R.*). | Salvin-Godman Coll. |
| *b''*. ♂ ad. sk. | Xicotencal, Tamaulipas, May (*W. B. R.*). | Salvin-Godman Coll. |
| *c''*. ♂ ad.; *d''*, *e''*. ♀ ad. sk. | Tampico, Feb. (*W. B. R.*). | Salvin-Godman Coll. |
| *f''*, *g''*. ♂ ♀ ad. sk. | Vera Cruz, Feb. (*W. B. R.*). | Salvin-Godman Coll. |
| *h''*, *i''*. ♂ ♀ ad. sk. | Teapa, Vera Cruz, Feb. (*Mrs. H. H. Smith*). | Salvin-Godman Coll. |
| *k''*, *l''*, *m''*. ♂ ad. sk. | Jalapa, Jan., March (*F. D. G.*). | Salvin-Godman Coll. |
| *n''*, *o''*, *p''*. Ad. et imm. sk. | Jalapa (*de Oca*). | Sclater Coll. |
| *q''*. Ad. sk. | Buctzotz, Yucatan, April (*G. F. Gaumer*). | Salvin-Godman Coll. |
| *r''–u''*. Ad. sk. | Peto, Yucatan, April (*G. F. G.*). | Salvin-Godman Coll. |
| *v''*. Ad. sk. | Yzamal, N. Yucatan, Jan. (*G. F. G.*). | Salvin-Godman Coll. |
| *w''–c*$^{3}$. Ad. et juv. sk. | Cozumel Island (*G. F. G.*). | Salvin-Godman Coll. |
| *d*$^{3}$. Ad. sk. | Holbox Island (*G. F. G.*). | Salvin-Godman Coll. |
| *e*$^{3}$, *f*$^{3}$. Ad. sk. | Mugeres Island (*G. F. G.*). | Salvin-Godman Coll. |
| *g*$^{3}$. Ad. sk. | Meco Island (*G. F. G.*). | Salvin-Godman Coll. |
| *h*$^{3}$. ♂ ad. sk. | Orange Walk, British Honduras, Dec. (*G. F. G.*). | Salvin-Godman Coll. |
| *i*$^{3}$, *k*$^{3}$. ♂ ad. sk. | Dueñas, Guatemala, Aug. (*O. S.*). | Salvin-Godman Coll. |
| *l*$^{3}$, *m*$^{3}$. Ad. sk. | Guatemala. | Tweeddale Coll. |
| *n*$^{3}$. Ad. sk. | San José, Costa Rica, (*J. Carmiol*) [Sm. no. 33503]. | Salvin-Godman Coll. |
| *o*$^{3}$, *p*$^{3}$, *q*$^{3}$. ♂ ♀ ad. sk. | Calovevora, Veragua (*E. Arcé*). | Salvin-Godman Coll. |
| *r*$^{3}$. ♀ ad. sk. | Santa Marta, April (*F. A. A. Simons*). | Salvin-Godman Coll. |
| *s*$^{3}$, *t*$^{3}$. Ad. sk. | Intac, Ecuador (*C. Buckley*). | Salvin-Godman Coll. |
| *u*$^{3}$. Ad. sk. | Babahoyo (*L. Fraser*). | Sclater Coll. |
| *v*$^{3}$. Ad. sk. | Guayaquil. | Capt. Kellett & Lieut. Wood [P.]. |
| *w*$^{3}$, *x*$^{3}$, *y*$^{3}$. Ad. sk. | Peru. | |
| *z*$^{3}$. Ad. sk. | Payta, Peru, Jan. (*A. H. Markham*). | Salvin-Godman Coll. |
| *a*$^{4}$, *b*$^{4}$. ♂ ♀ ad. sk. | Callao, Peru, Sept. (*A. H. Markham*). | Salvin-Godman Coll. |
| *c*$^{4}$, *d*$^{4}$, *e*$^{4}$. ♂ ad. sk. | Tambo Valley, S.W. Peru, Oct. (*H. Whitely*). | Salvin-Godman Coll. |

## 42. GUIRA.

| | Type. |
|---|---|
| Guira, *Less. Traité*, p. 149 (1831) ..... | G. guira. |
| Octopteryx, *Kaup, Die Vög. Syst. beschr.* p. 25 (1836) .. | G. guira. |
| Ptiloleptus, *Swains. Class. B.* ii. p. 323 (1837) ..... | G. guira. |

*Range.* Brazil and Paraguay.

### 1. Guira guira.

Le Coucou hupé du Brésil, *Briss. Orn.* iv. p. 144 (1760).
Cuculus guira, *Gm. Syst. Nat.* i. p. 414 (1788).

Piririgua, *Azara, Apunt.* (1) ii. p. 340 (1805); *Hartl. Syst. Index Azara*, p. 17 (1847).
Crotophaga piririgua, *Buff. Nat. Hist. Ois.* vi. p. 407 (1789); *Vieill. Enc. Méth.* p. 1356 (1823); *id. & Oud. Gal. Ois.* i. p. 36, pl. 44 (1825); *Guérin, Icon. Ois.* pl. 31.
Coccyzus guira, *Neuwied, Beitr. Naturg. Bras.* iv. p. 335 (1832); *Temm. Tabl. Méth.* p. 53 (1838); *Quoy & Gaim. Voy. Uranie*, p. 114, pl. 26 (1824).
Ptiloleptus cristatus, *Swains. Class. B.* ii. p. 328 (1837).
Guira pirirgua, *Strickl. Ann. & Mag. Nat. Hist.* 1841, p. 36; *Sel. Cat. Am. B.* p. 320 (1862); *Gray, Hand-l. B.* ii. p. 210, no. 8910 (1870); *Scl. & Salv. Nom. Av. Neotrop.* p. 107 (1873); *Sclater & Hudson, Argent. Orn.* ii. p. 32 (1889).
Diplopterus guira, *Gray, Gen. B.* ii. p. 456 (1847).
Ptiloleptis guira, *Burm. Syst. Uebers. Th. Bras.* ii. p. 257 (1855).
Guira cristata, *Bp. Consp. Vol. Zygod.* p. 6 (1854).
Octopteryx guira, *Cab. & Heine, Mus. Hein.* iv. p. 98 (1862).

*Adult male.* General plumage above dark brown and buff; head and neck buff, shading into pinkish rufous on the forehead and crest and with narrow black shaft-stripes to the feathers, broadest on the longest crest-feathers and those of the back of the neck; mantle and scapulars dark brown with fulvous shaft-stripes; remainder of the wing brown, dark internally, and passing into buff on the outer feathers; all the wing-coverts broadly edged with buff; back white, passing into buff on the upper tail-coverts and basal half of the tail; remainder of the tail brownish black, with a green gloss and with broad white ends to all but the centre feathers; under surface pale buff, with narrow black shaft-stripes on the throat; under surface of wings whitish buff, shading into brown on the middle and end half of the quills: "bill and iris yellow; legs grey" (*Alan Peel*). Total length 16 inches, culmen 1·3, wing 7·4, tail 9·7, tarsus 1·65.

*Adult female.* Similar in plumage to the male. Total length 15 inches, culmen 1·3, wing 6·9, tail 9·2, tarsus 1·45.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Chili. | Seebohm Coll. |
| *c.* ♂ ad. sk. | Mendoza (*E. C. Reed*). | Seebohm Coll. |
| *d.* ♂ ad. sk. | Pampas Argentinas (*Leybold*). | Salvin-Godman Coll. |
| *e, f.* ♀ ad. sk. | Conchitas, Buenos Ayres, Sept. (*W. H. Hudson*). | Salvin-Godman Coll. |
| *g.* ♂ ad. sk. | Salta, Arg. Rep, Oct. (*E. W. White*). | Forbes Coll. |
| *h, i.* ♂ ad. sk. | Uruguay, June, Aug. | Alan Peel, Esq. [P.]. |
| *k, l.* Ad. sk. | Brazil. | Sclater Coll. |
| *m, n.* Ad. st. | Brazil. | M. Claussen [P.]. |
| *o.* Juv. sk. | Novo Fribourgo, Rio de Janeiro (*J. Youds*). | Salvin-Godman Coll. |
| *p, q.* ♂ ♀ ad. sk. | Chapada, Matto Grosso (*H. H. Smith*). | Salvin-Godman Coll. |
| *r.* ♂ ad. sk. | Ypanema, May (*J. Natterer*). | Salvin-Godman Coll. |
| *s, t.* Ad. sk. | Pernambuco (*W. A. Forbes*). | Salvin-Godman Coll. |
| *u.* ♂ ad. sk. | Céara, March (*W. Jesse*). | Salvin-Godman Coll. |
| *v.* ♂ ad. sk. | Island of Mexiana, Jan. (*A. R. Wallace*). | Salvin-Godman Coll. |
| *w.* Skeleton. | Para. | Purchased. |

# Family MUSOPHAGIDÆ.

(By G. E. SHELLEY.)

Feet semi-zygodactyle, the fourth or outer toe capable of being turned either backwards or forwards.

Palate desmognathous.

Basipterygoid processes absent.

Hallux present, connected with the flexor longus hallucis, not with the flexor perforans digitorum, which leads to the second, third, and fourth digits.

Tail-feathers ten.

Pterylosis: spinal feather-tract well defined on the neck by lateral bare tracts, but with no interscapular fork.

Confined to the Ethiopian Region.

On a peculiar colouring-matter, *Turacin*, discovered by A. H. Church in the feathers of the Touracous, see Philos. Trans. vol. 159 (1869), p. 627.

Cf. *Schalow, J. f. O.* 1886, pp. 1–77.

*Key to the Genera.*

*a*. Nostrils concealed ..... 1. TURACUS, p. 435.
*b*. Nostrils exposed.
*a'*. Nostrils oval, not placed in a groove and not nearer to the forehead than to the tip of the bill.
*a''*. Bill small and black; base of culmen hidden by feathers; with crimson on the quills as in *Turacus* ..... 2. GALLIREX, p. 446.
*b''*. Bill larger, red and yellow; entire bill exposed.
*a'''*. Bill broad, culmen rounded and not compressed behind the nostrils; with crimson on the quills as in *Turacus*.. [p. 447. 3. MUSOPHAGA,
*b'''*. Bill flattened, culmen compressed throughout its length; with no crimson on the quills ..... [p. 449. 4. CORYTHÆOLA,
*b'*. Nostrils linear, placed in a partially curved groove and nearer to the forehead than to the tip of the bill; with no red or blue on the plumage. [p. 450.
*c''*. Front half of the head feathered ..... 5. SCHIZORHIS,
*d''*. Front half of the head bare ..... 6. GYMNOSCHIZORHIS, [p. 455.

## 1. TURACUS.

| | Type. |
|---|---|
| Turacus, *Cuv. Leçons d'Anat. Comp.* i. tab. 2 (1800) ..... | T. macrorhynchus. |
| Touraco, *Lacépède, Mém. Inst. Paris*, iii. p. 504 (1801) ..... | T. macrorhynchus. |

Type.
Corythaix, *Ill. Prodr.* p. 202 (1811) ..... T. leucotis.
Opæthus, *Vieill. Analyse*, p. 29 (1816) ..... T. erythrolophus.
Corythrix, *Flem. Phil. Zool.* ii. p. 250 (1822).
Spelectos, *Wagl. Syst. Av.* Spelectos, fol. 8, p. 3 (1827) ..... T. corythaix.

*Range.* Confined to Tropical and Southern Africa.

*Key to the Species.*

*a*. Anterior half of crown grass-green.
  *a'*. Crest bottle-green; with a white patch on sides of neck ..... *leucotis*, p. 436.
  *b'*. Crest uniform green with no white or red tips.
    *a''*. With a partially defined black band under the eye and a strongly marked white one. *persa*, p. 437.
    *b''*. With a strongly marked black band under the eye and only a slight streak of white underneath (often absent)..... *buffoni*, p. 438.
  *c'*. Crest uniform green, tipped with white.
    *c''*. Metallic portion of back and wings green.
      *a'''*. With the tail violet-blue, contrasting with the back and wings; crest 4 inches in length..... *schalowi*, p. 439.
      *b'''*. With the tail green; crest-feathers not 2·5 inches long.
        $a^4$. With an elongated crest.
          $a^5$. Tail bluer than back ..... *livingstoni*, p. 439.
          $b^5$. Back bluer than tail ..... *reichenowi*, p. 440.
        $b^4$. Crest evenly rounded ..... *corythaix*, p. 440.
    *d''*. Metallic portion of the back and wings blue like the tail..... *schuetti*, p. 441.
  *d'*. Crest uniform green, tipped with black and with a white subterminal bar on each of the feathers ..... *macrorhynchus*, [p. 441.
  *e'*. Crest uniform green, tipped with red ..... *meriani*, p. 442.
  *f'*. Crest green and red, tipped with white .... *fischeri*, p. 443.
*b*. Anterior half of crown not green.
  *g'*. Upper half of head red, crest tipped with white ..... *erythrolophus*, [p. 444.
  *h'*. Forehead and crown violet; crest white .... *leucolophus*, p. 444.
  *i'*. Entire upper half of head steel-blue, with a white patch in front of the eye ..... *hartlaubi*, p. 445.

## 1. Turacus leucotis.

Le Touraco d'Abyssinie, *Buff. Nat. Ois.* vi. p. 386 (1783).
Corythaix leucotis, *Rüpp. Neue Wirb., Vög.* p. 8, pl. 3 (1835–40); *Cab. & Heine, Mus. Hein.* iii. p. 99 (1860); *Finsch, Trans. Z. S.* vii. p. 276 (1870); *Heugl. Orn. N.O.-Afr.* p. 701 (1871); *Sharpe, Cat. Afr. B.* p. 11 (1871); *Schalow, J. f. O.* 1886, p. 41.
Turacus leucotis, *Rüpp. Syst Uebers.* p. 80 (1845); *Gray, Gen. B.* ii. p. 395 (1845); *Rüpp. Arch. f. Natury.* xvii. p. 321 (1851); *Gray, Hand-l. B.* ii. p. 125, no 7857 (1870); *Blanf. Geol. & Zool. Abyss.* p. 316 (1870); *Heugl. Orn. N.O.-Afr.* p. cliii (1872); *Antin. &*

*Salvad. Viagg. Bogos*, p. 51 (1873); *Salvad. Ann. Mus. Genov.* (2) i. p. 97 (1884); *id. op. cit.* (2) vi. pp. 215, 529.
Musophaga leucotis, *Schl. & Westerm. Toerako's*, p. 13, pl. 5 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 75 (1864).

*Adult male.* Head, neck, and chest glossy grass-green, shading into deep bottle-green on the crest; a large white spot in front of the eye, followed by a small blackish patch on the cheek; bare skin round the eye red, edged in front and below by a few small black feathers; behind the ear-coverts a silky white patch, extending on each side of the throat; back and wings blue-grey, glossed with green and pale blue; tail similar, but darker; quills, with the exception of the outer one, bright crimson, with their edges and shafts black; remainder of the under surface of the body, under tail- and wing-coverts ashy grey, the latter slightly mottled with green: iris hazel; bill yellow; legs black. Total length 15·3 inches, culmen 1·1, wing 6·3, tail 8, tarsus 1·7.

*Adult female.* Similar in plumage to the male. Total length 15 inches, culmen 1·1, tail 7·3, tarsus 1·6.

*Hab.* Confined to North-east Africa, where it ranges from Bogos throughout Abyssinia to Shoa, but has not been recorded from further south.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Bogos-Land (*Esler*). | Shelley Coll. |
| *c*. ♀ ad. sk. | Anseba Valley, Aug. | W. T. Blanford, Esq. [C.]. |
| *d*, *e*. ♂ ad. sk. | Bejook, July (*W. Jesse*). | Tweeddale Coll. |
| *f*. Ad. sk. | Abyssinia. | Edward Wilson, Esq. [P.]. |
| *g*. Ad. sk. | Abyssinia. | Purchased. |
| *h*. ♂ ad. sk. | Mishek, S. of Antalo, May. | W. T. Blanford, Esq. [C.]. |
| *i*, *k*. ♂ ♀ ad. sk. | Shoa, Dec. (*Sir W. Harris*). | India Museum. |
| *l*. Ad. sk. | White Nile. | Gould Coll. |

## 2. Turacus persa.

Crown Bird from Mexico, *Albin, Nat. Hist. B.* ii. p. 18, pl. 19 (1738).
Le Coucou vert hupé de Guinée, *Briss. Orn.* iv. p. 153 (1760).
Cuculus persa, *Linn. Syst. Nat.* i. p. 171 (1766); *Strickl. Contr. Orn.* 1851, p. 161; *Walden, Ibis*, 1869, p. 335.
Touraco, *Lath. Gen. Syn. B.* ii. p. 545 (1782); *Edwards, Nat. Hist. B.* i. pl. 7 (1803).
Opœthus africanus (*nec Lath.*), *Shaw, Gen. Zool.* ix. p. 63, pl. 15 (1815).
Turacus persa, *Gray, Gen. B.* ii. p. 395, pl. 97. fig. 1 (1845); *Bp. Consp.* i. p. 87 (1850); *Rüpp. Arch. f. Naturg.* xvii. p. 319 (1851); *Jard. Contr. Orn.* 1852, pp. 69, 72; *Gray, Hand-l. B.* ii. p. 125, no. 7852 (1870); *Bouvier, Cat. Marche &c.* p. 27 (1875).
Musophaga persa, *Temm. Tabl. Méth.* p. 51 (1838); *Schl. J. f. O.* 1854, p. 462; *id. & Westerm. Toerako's*, p. 16, pl. 9 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 76 (1864).
Corythaix persa, *Hartl. J. f. O.* 1854, p. 125, 1855, p. 361; *id. Orn. W.-Afr.* p. 156 (1857); *Sharpe, Ibis*, 1869, p. 193; *id. Cat. Afr. B.*

p. 11 (1871); *Reichen. J. f. O.* 1877, p. 14; *Bocage, Orn. Angola*, p. 541 (1881); *Schalow, J. f. O.* 1886, p. 21.

*Adult male.* Head and neck grass-green; back, wings, and tail glossy violet; quills, with the exception of the outer one, bright crimson, with the edges and shafts black; bare ocular patch scarlet, with a band of white feathers in front and below, this being divided by a patch of black feathers on the cheek; front and centre of chest grass-green like the neck: remainder of the body and the under tail-coverts violet-shaded black; under surface of quills like the upper surface; under wing-coverts dark brown, partially washed with green: bill deep olive, inclining to yellow on the edges; iris hazel; legs black. Total length 15·7 inches, culmen 1·1, wing 6·5, tail 8, tarsus 1·6.

*Adult female.* Similar in plumage to the male. Total length 17 inches, culmen 1·1, wing 7, tail 8·2, tarsus 1·65.

*Hab.* Confined to West Africa, where it ranges from Senegambia to the Congo.

| | | |
|---|---|---|
| *a.* Ad. sk. | Casamance. | Sharpe Coll. |
| *b, c.* Ad. sk. | Ashantee. | Godfrey Lagden, Esq. [P.]. |
| *d.* Ad. sk. | Gold Coast. | Shelley Coll. |
| *e, f.* Ad. sk. | Fantee. | Sharpe Coll. |
| *g.* Ad. sk. | Accra, Feb. (*T. E. Buckley*). | Sharpe Coll. |
| *h.* Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *i.* Ad. st. | River Niger. | T. Thompson, Esq. [P.]. |
| *k, l, m.* Ad. sk. | Cameroons Mts., Feb. (*A. Crossley*). | Sharpe Coll. |
| *n, o.* Ad. sk. | Gaboon. | Shelley Coll. |
| *p.* ♀ ad. sk. | Landana, River Congo, Feb. (*L. Petit*). | Shelley Coll. |

### 3. Turacus buffoni.

Le Touraco Buffon, *Levaill. Hist. Nat. Promerops*, p. 33, pl. 17 (1806).
Opaethus buffonii, *Vieill. Nouv. Dict.* xxxiv. p. 304 (1819); *id. Enc. Méth.* p. 1297 (1823).
Corythaix buffoni, *Jardine & Selby, Ill. Orn.* pl. 122 (1825); *Hartl. Orn. W.-Afr.* p. 156 (1857); *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 50 (1876); *Bocage, Orn. Angola*, p. 541 (1882); *Schalow, J. f. O.* 1886, p. 24; *Reichen. J. f. O.* 1887, pp. 299, 302.
Spelectos persa (*nec Linn.*), *Wagler, Syst. Av.* Spelectos, sp. 2 (1827).
Corythaix purpureus, *Cuv., Less. Traité*, p. 124 (1831); *Hartl. J. f. O.* 1854, p. 125; *Reichen. J. f. O.* 1875, pp. 1, 48.
Corythaix senegalensis, *Swains. B. W. Afr.* i. p. 225, pl. 21 (1837).
Turacus persa, pt., *Bp. Consp.* i. p. 87 (1850).
Turacus buffoni, *Rüpp. Arch. f. Naturg.* xvii. p. 320 (1851); *Hartl. op. cit.* xviii. p. 20 (1852); *Jard. Contr. Orn.* 1852, pp. 73, 79.
Turacus purpureus, *J. & E. Verr. Rev. et Mag. Zool.* 1851, p. 258; *Bouvier, Cat. Marche &c.* p. 27 (1875).
Musophaga meriani (*nec Rüpp.*), *Schl. J. f. O.* 1854, p. 462.
Musophaga purpurea, *Schl. & Westerm. Toerako's*, p. 17, pl. 10 (1860).

*Adult male.* Similar to *T. persa*, but differs in having a broad

jet-black band beneath the eye and no white band beneath it. Total length 16 inches, culmen 1·1, wing 7·3, tail 8, tarsus 1·6.

In a specimen from the Gambia there is a narrow white line beneath the black band on the side of the head. The specific value of this form is further rendered more doubtful from its range being the same as that of *T. persa*.

*Hab.* West Africa, from the Congo to Senegal.

| | | |
|---|---|---|
| *a*. ♂ ad. sk. | Senegal. | Riocour Coll. |
| *b*. Ad. sk. | River Gambia. | Sharpe Coll. |

### 4. Turacus schalowi *.

Corythaix livingstonii (*nec Gray*), *Monteiro, P. Z. S.* 1865, p. 92; *Bocage, Jorn. Lisb.* 1867, pp. 142, 335, 1870, p. 347; *Finsch & Hartl. Vög. Ostafr.* p. 477, pl. 8 (1870, pt.); *Sharpe, Cat. Afr. B.* p. 11 (1871); *Bocage, Orn. Angola*, p. 132 (1877); *Sharpe, ed. Layard's B. S. Afr.* p. 143 (1875–85, pt.); *Schalow, J. f. O.* 1885, pl. 5. fig. 3, 1886, p. 26, 1887, p. 232; *Matschie, t. c.* pp. 136, 149; *Souza, Jorn. Lisb.* 1889, pp. 44, 122.

Corythaix schalowi, *Reichen. J. f. O.* 1891, p. 5.

*Adult female.* Head, neck, and chest grass-green, with the ends of all the feathers of the crest and nape white; bare skin round the eye bright red, bordered in front by a white band from the lores and below by short black feathers, which widen into a patch across the cheek; from behind the black patch on the cheeks extends a white band to beyond the ear-coverts; back and wings glossy green, partially washed with blue; quills crimson and black as in all the species of the genus; tail violet, much bluer than the back; lower breast, abdomen, thighs, under tail- and wing-coverts dusky slate-colour, partially washed with glossy green: iris brown; bill orange; legs black. Total length 17 inches, culmen 1·0, wing 6·8, tail 7·5, tarsus 1·5, crest 4.

*Hab.* Mossamedes and Benguela to the western shores of Lake Tanganyika.

| | | |
|---|---|---|
| *a*. Ad. sk. | Benguela. | Monteiro Coll. |
| *b*. ♀ ad. sk. | Biballa (*Anchieta*). | Shelley Coll. (Type of species.) |
| *c*. ♀ ad. sk. | Biballa (*Anchieta*). | Sharpe Coll. |

### 5. Turacus livingstoni.

Opaetus africanus (*nec Lath.*), *Bianconi, Spec. Zool. Mosamb.* fasc. iii. p. 34 (1850, pt.).

Turacus livingstonii, *Gray, P. Z. S.* 1864, p. 44; *id. Hand-l. B.* ii. p. 125, no. 7851 (1870); *Shelley, P. Z. S.* 1882, p. 309.

Corythaix livingstonii, *Kirk, Ibis*, 1864, p. 328; *Finsch & Hartl. Vög. Ostafr.* p. 477 (1870, pt.); *Sharpe, ed. Layard's B. S. Afr.* p. 143 (1875–85); *Fisch. & Reichen. J. f. O.* 1886, p. 141; *Tris-*

* Dr. Reichenow has sent me an advance sheet of the April Heft of the 'Journal für Ornithologie,' and I find that he has also discovered that the Benguela bird is distinct. I have suppressed the name which I had given to it, and have substituted that of Dr. Reichenow.

*tram, Ibis*, 1889, p. 225; *Dubois, Bull. Mus. Hist. Nat. Belg.* iii. p. 147 (1884).

Corythaix cabanisi, *Reichen. J. f. O.* 1883, p. 221; *Fisch. J. f. O.* 1885, p. 123; *Reichen. & Schalow, J. f. O.* 1885, p. 460, pl. 5. fig. 4; *Schalow, J. f. O.* 1886, p. 29.

*Adult.* Very similar to *T. schalowi*, but with the tail greener and the crest shorter. Total length 16 inches, culmen 1·1, wing 6·9, tail 8·5, tarsus 1·6, crest 2·4.

*Hab.* Confined to East Africa, where it ranges from the Ugogo to the Zambesi.

| | | |
|---|---|---|
| *a.* Ak. st. | Zambesi (*Sir J. Kirk*). | Livingstone Exped. (Type of species.) |
| *b.* Ad. sk. | Zambesi (*Sir J. Kirk*). | Livingstone Exped. |
| *c.* Ad. sk. | Zambesi. | Sir John Kirk [P.]. |
| *d, e, f.* Ad. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. |

### 6. Turacus reichenowi.

Corythaix reichenowi, *Fischer, Orn. Centralbl.* 1880, p. 174; *Fisch. J. f. O.* 1881, pp. 80, 109, 1885, p. 123, pl. 5. fig. 5; *Schalow, J. f. O.* 1886, p. 30.

*Adult.* Similar to *T. livingstoni*, but distinguished from it and from *T. schalowi* by having the crest-feathers more evenly graduated as in *T. corythaix*, and the back and wings bluer than the tail. Total length 17·7 inches, culmen 1, wing 7·1, tail 7·8.

*Hab.* Nguru Mountains, East Africa.

This species I have not seen, and I greatly doubt its distinctness from the true *T. livingstoni*.

### 7. Turacus corythaix.

Le Touracou de Guinée, *Buff. Hist. Nat. Ois.* vi. p. 385 (1783).

Le Touracou du Cap de Bonne Espérance, *Buff. t. c.* p. 387.

Le Touracou Louri, *Levaill. Hist. Nat. Promerops*, p. 29, pl. 16 (1806).

Opaethus persa (*nec Linn.*), *Vieill. Nouv. Dict.* xxxiv. p. 304 (1819); *id. Enc. Méth.* p. 1297 (1823); *id. Gal. Ois.* p. 46, pl. 49 (1825); *Less. Traité*, p. 123 (1831).

Musophaga persa, *Licht. Verz. Doubl.* p. 7 (1823).

Spelectos corythaix, *Wagl. Syst. Av.*, Spelectos, sp. 1 (1827).

Corythaix musophaga, *Dubois, Gal. Ois.* p. 2, pl. 2 (1839); *Finsch & Hartl. Vög. Ostafr.* p. 475 (1870); *Sharpe, Cat. Afr. B.* p. 11 (1871); *Gurney, Ibis*, 1873, p. 255; *Shelley, Ibis*, 1875, p. 81; *Barratt, Ibis*, 1876, pp. 193, 199; *Ayres, t. c.* p. 432; *Sharpe, ed. Layard's B. S. Afr.* p. 141 (1875–85).

Cuculus persa, *Forst. Descr. Anim.* p. 42 (1844).

Turacus albocristatus, *Strickl. Ann. Nat. Hist.* vii. p. 33 (1841); *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 87 (1850).

Opaetus africanus (*nec Lath.*), *Bianconi, Spec. Zool. Mosamb.* fasc. iii. p. 34 (1850, pt.).

Turacus corythaix, *Rüpp. Archiv Naturg.* xvii. p. 320 (1851); *Hartl. op. cit.* xviii. p. 19 (1852); *Jard. Contr. Orn.* 1852, pp. 72, 78.

Musophaga albocristata, *Schl. & Westerm. Toerako's*, p. 8, pl. 11 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 77 (1864).
Corythaix albocristata, *Cab. & Heine, Mus. Hein.* iii. p. 98 (1860); *Schalow, J. f. O.* 1886, p. 32.
Turacus persa (*nec Linn.*), *Layard, B. S. Afr.* p. 223 (1867); *id. Ibis*, 1869, p. 372; *Holub & Pelz. Orn. Südafr.* p. 138 (1882).
Turacus musophagus, *Gray, Hand-l. B.* ii. p. 125, no. 7850 (1870).

*Adult male.* Similar to *T. livingstoni*, but differs in having the crest shorter and evenly rounded, the metallic feathers of the back and wings washed with blue at their edges and bluer than the tail: bill orange-brown; iris brown; legs black. Total length 17 inches, culmen 1·1, wing 6·8, tail 8, tarsus 1·7.

*Adult female.* Similar in plumage to the male. Total length 17 inches, culmen 1·1, wing 7, tail 8, tarsus 1·6.

*Hab.* Confined to South Africa, where it ranges from the Zambesi into Natal and the Cape Colony, being plentiful at the Knysna.

| | | |
|---|---|---|
| *a*, *b*, *c*. Ad. sk. | South Africa. | Purchased. |
| *d*. Ad. sk. | Cape. | India Museum. |
| *e*, ♂ ad. sk. | Knysna, March (*C. J. Andersson*). | Sharpe Coll. |
| *f*, *g*. Ad. sk. | Kingwilliamstown (*Trevelyan*). | Shelley Coll. |
| *h*. Ad. sk. | Eland's Post (*T. C. Atmore*). | Sharpe Coll. |
| *i*, *k*. Ad. sk. | Natal. | Tweeddale Coll. |
| *l*, *m*. Ad. sk. | Durban, April (*Gordge*). | Shelley Coll. |
| *n*. Ad. sk. | Lydenberg, Transvaal. | F. Barratt, Esq. [P.]. |

### 8. Turacus schuetti.

Corythaix schuetti, *Cab. Orn. Centralbl.* 1879, p. 180; *id. J. f. O.* 1879, p. 445; *Bocage, Orn. Angola*, p. 541 (1881); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 433 (1884); *Schalow, J. f. O.* 1885, pl. 5. fig. 2, 1886, p. 34.

*Adult.* Differs from the foregoing white-tipped species in having the tail and metallic portions of the wings uniform violet-shaded blue, and the back indigo-blue; crest short and evenly rounded: iris brown; bill and legs dusky black. Total length 15 inches, culmen 0·9, wing 6·5, tail 7·7, tarsus 1·4.

*Hab.* Central Africa, from Angola to the Niam-Niam country, probably occurring throughout the district watered by the Congo and its tributaries.

| | | |
|---|---|---|
| *a*. Ad. sk. | Semmio, Niam-Niam Country, March. | F. Bohndorff [C.]. |

### 9. Turacus macrorhynchus.

Corythaix macrorhyncha, *Fraser, P. Z. S.* 1839, p. 34; *Gray, Gen. B.* ii. pl. 95 (1845); *Hartl. J. f. O.* 1854, p. 124, 1855, p. 361; *id. Orn. W.-Afr.* p. 157 (1857); *Sharpe, Ibis*, 1869, p. 193; *id. Cat. Afr. B.* p. 11 (1871); *Shelley, Ibis*, 1872, p. 286; *Schalow, J. f. O.* 1886, p. 36.
Turacus macrorhynchus, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* p. 87 (1850); *Rüpp. Arch. f. Naturg.* xiii. p. 320 (1851); *Hartl. op. cit.* xviii. p. 19 (1852); *Jard. Contr. Orn.* 1852, pp. 73, 78;

*Gray, Hand-l. B.* ii. p. 125, no. 7849 (1870); *Bouvier, Cat. Marche &c.* p. 27 (1875).

Musophaga macrorhyncha, *Schl. & Westerm. Toerako's*, p. 15, pl. 7 (1860).

*Adult.* Head, neck, and fore part of chest grass-green; feathers of the crest tipped with black and with a subterminal white bar; bare skin round the eye red, with some very small black feathers which form a patch of black on the cheeks; behind this black patch a band of white feathers extending to below the ear-coverts; mantle, wings, and upper tail-coverts glossy violet-blue; quills crimson and black, as in all the foregoing species; remainder of the back blacker and less glossed than the mantle; tail glossy greenish violet, greener than the mantle; remainder of the body, under tail- and wing-coverts dusky black, slightly glossed with bluish green: bill yellow, partially shaded with orange; iris brown; legs black. Total length 17·5 inches, culmen 1·15, wing 6·7, tail 7·8, tarsus 1·55.

In one specimen the white subterminal bars of the crest are partially washed with red, and in another, probably immature, these white bars are almost absent, and the ends of the feathers dusky green instead of black.

*Hab.* West Africa generally from the Gaboon and Fernando Po to Senegambia.

| | | |
|---|---|---|
| *a, b.* Ad. st. | West Africa. | Zoological Society. |
| *c.* Ad. sk. | Cape Palmas. | F. Nicholson, Esq. [P.]. |
| *d.* Ad. sk. | Ancobra River, Wasa. | Captains Burton and Cameron [P.]. |
| *e, f.* Ad. sk. | Gold Coast. | Gould Coll. |
| *g, h, i.* Ad. sk. | Fantee (*H. T. Ussher*). | Sharpe Coll. |
| *k.* Ad. sk. | Cape Coast Castle. | Shelley Coll. |

### 10. Turacus meriani.

Corythaix meriani, *Rüpp. Arch. f. Naturg.* xvii. p. 319 (1851); *Hartl. Orn. W.-Afr.* p. 157 (1857); *Heine, J. f. O.* 1860, p. 189; *Sharpe, P. Z. S.* 1871, p. 605; *Reichen. J. f. O.* 1877, p. 14; *Bocage, Orn. Angola*, p. 541 (1881); *Schalow, J. f. O.* 1886, p. 37; *Shelley, P. Z. S.* 1887, p. 123.

Turacus persa (*nec Linn.*), *J. & E. Verr. Rev. et Mag. Zool.* 1851, p. 257.

Turacus meriani, *Hartl. Arch. f. Naturg.* xviii. p. 18 (1852); *Jard. Contr. Orn.* 1852, pp. 72, 77; *Gray, Hand-l. B.* ii. p. 125, no. 7856 (1870); *Bouvier, Cat. Marche &c.* p. 27 (1875).

Musophaga verreauxi, *Schl. J. f. O.* 1854, p. 462.

Corythaix persa, *Cass. Proc. Ac. Philad.* viii. p. 319 (1857).

Musophaga meriani, *Schl. & Westerm. Toerako's*, p. 16, pl. 18 (1860).

*Adult male.* Similar in plumage to *T. macrorhynchus*, but differs in having the crest-feathers tipped with crimson, and in wanting the subterminal white bar. Total length 14·5 inches, culmen 1·1, wing 6·5, tail 7·5, tarsus 1·6.

*Immature.* Differs from the adult in having the ends of the

crest-feathers dusky green, with only the faintest tinge of red on one of the feathers. It also differs in this stage from the young of *T. macrorhynchus* in having the bill darker and less yellow.

*Hab.* West Africa south of the equator, ranging from the Congo to the Cameroons on the north and to Stanley Pool in the interior.

| | | |
|---|---|---|
| *a.* Ad. sk. | West Africa. | J. Murray, Esq. [P.]. |
| *b.* Ad. sk. | West Africa. | Purchased. |
| *c, d.* Ad. sk. | River Niger. | T. Thompson, Esq. [P.]. |
| *e.* Ad. sk. | Cameroons Mountains, Dec. (*Crossley*). | Sharpe Coll. |
| *f.* ♂ ad. sk. | Cameroons (5000 feet, *H. H. Johnston*). | British Association [P.]. |
| *g, h.* Ad. sk. | Gaboon (*Walker*). | Shelley Coll. |
| *i.* ♂ ad. sk. | Condé, River Congo. | Shelley Coll. |

## 11. Turacus fischeri.

Corythaix fischeri, *Reichen. Orn. Centralbl.* 1878, p. 88; *id. J. f. O.* 1878, p. 252, pl. 4. fig. 1; *Fischer, t. c.* pp. 290, 354, 1879, pp. 288, 291, 303; *id. & Reichen. t. c.* p. 340; *Fischer, J. f. O.* 1880, p. 189, 1885, p. 123; *Schalow, J. f. O.* 1886, p. 46; *Shelley, Ibis*, 1888, p. 297.

Turacus fischeri, *Shelley, P. Z. S.* 1881, p. 590.

*Adult male.* Head, neck, and fore part of chest grass-green, gradually passing into blood-red on the terminal half of the feathers of the crest and back of the neck, this red colour deepening almost into black on the longer feathers of the crest; feathers of the hind crest and nape tipped with silky white; a bare patch round the eye red, margined in front by a broad white band which extends to the bill, and below by small black feathers which form a patch on the cheek; behind this black cheek-patch a broad white band extends to below the ear-coverts; metallic portion of the wings, upper tail-coverts, and tail nearly uniform green, slightly shaded with blue, and with a pearly lustre on the mantle; lower portion of the chest, abdomen, thighs, under tail- and wing-coverts dusky black, partially glossed with green: bill orange, inclining to olive near the nostrils; iris brown; legs black. Total length 15·5 inches, culmen 1·1, wing 6·3, tail 7·3, tarsus 1·5.

*Adult female.* Similar in plumage to the male. Total length 16 inches, culmen 1·1, wing 6·4, tail 7·8, tarsus 1·55.

*Hab.* Confined to East Africa south of the Equator, between Kilimanjaro and Zanzibar.

| | | |
|---|---|---|
| *a.* ♀ ad. sk. | Múniúni, Sept. | Dr. Fischer [C.]. |
| *b, c.* ♂ ♀ ad. sk. | Kipingoni Creek, January. | F. J. Jackson, Esq. [P.]. |
| *d.* Ad. sk. | Lamu (*Sir J. Kirk*). | Shelley Coll. |
| *e, f.* Ad. sk. | Malindi (*Sir J. Kirk*). | Shelley Coll. |

## 12. Turacus erythrolophus.

Opaethus erythrolophus, *Vieill. Nouv. Dict.* xxxiv. p. 306 (1819); *id. Enc. Méth.* p. 1298 (1823); *id. Gal. Ois.* p. 46, pl. 49 (1825).
Musophaga paulina, *Temm. Pl. Col.* i. p. 75, pl. 23 (1820).
Corythaix paulina, *Shaw, Gen. Zool.* xiv. p. 222, pl. 26 (1826); *Less. Traité*, p. 124 (1831); *Hartl. J. f. O.* 1854, p. 256; *Monteiro, Ibis*, 1862, p. 338.
Spelectos erythrolophus, *Wagl. Syst. Av.*, Spelectos, sp. 3 (1827).
Corythaix igniceps, *Less. Man. Orn.* ii. p. 155 (1828).
Turacus erythrolophus, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 87 (1850); *Rüpp. Arch. f. Naturg.* xvii. p. 321 (1851); *Hartl. op. cit.* xviii. p. 20 (1852); *Jard. Contr. Orn.* 1852, pp. 74, 79; *Gray, Hand-l. B.* ii. p. 125, no. 7855 (1870); *Bouvier, Cat. Marche &c.* p. 27 (1875).
Corythaix erythrolopha, *Hartl. J. f. O.* 1854, p. 125; *id. Orn. W.-Afr.* p. 158 (1857); *Sharpe, Cat. Afr. B.* p. 11 (1871); *id. P. Z. S.* 1871, p. 134; *id. ed. Layard's B. S. Afr.* p. 144 (1875–85); *Bocage, J. f. O.* 1876, p. 316; *id. Orn. Angola*, p. 131 (1877); *Schalow, J. f. O.* 1886, p. 44.
Musophaga erythrolopha, *Schl. & Westerm. Toerako's*, p. 14, pl. 6 (1860).

*Adult.* Sides of the head and chin white, passing into grass-green on the throat, neck, and fore part of the chest; upper part of the head and the nape blood-red, slightly darkest on the ends of the feathers of the nape; the longer crest-feathers tipped with white; mantle and metallic portion of the wings golden green; back dusky blue, partially glossed with golden green; upper tail-coverts and tail purplish blue, the feathers partially edged with green; remainder of the body, under tail- and wing-coverts dusky slate-colour slightly glossed with green; a small bare patch round the eye, probably red in life: bill yellow, with an olive shade near the nostrils; iris brown; legs black. Total length 15·3 inches, culmen 1·1, wing 7·1, tail 8·2, tarsus 1·55.

*Hab.* Confined to West Africa, where it ranges from Sierra Leone to Angola.

| | | |
|---|---|---|
| *a.* Ad. sk. | Africa. | J. Miers, Esq. [P.]. |
| *b.* Ad. sk. | Angola (*A. de Fonseca*). | Sharpe Coll. |
| *c.* Ad. sk. | Benguela. | Shelley Coll. |
| *d, e.* Ad. sk. | Loanda (*Toulson*). | Shelley Coll. |

## 13. Turacus leucolophus.

nom. nud. Turacus leucolophus, *Heugl. Syst. Uebers.* p. 45 (1856); *id. J. f. O.* 1864, p. 268; *Gray, Hand-l. B.* ii. p. 125, no. 7854 (1870); *Heugl. Orn. N.O.-Afr.* p. cliii (1872).
Corythaix leucolophus, *Hartl. Orn. W.-Afr.* p. 159, note (1857); *Heugl. Orn. N.O.-Afr.* p. 703, pl. 24 (1871); *Hartl. Abhandl. nat. Ver. Brem.* viii. p. 210 (1882); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 433 (1884); *Schalow, J. f. O.* 1886, p. 20; *Shelley, P. Z. S.* 1888, p. 44.
Musophaga leucolopha, *Schl. & Westerm. Toerako's*, p. 12, pl. 4 (1860).

*Adult male.* Upper half of the head glossy violet; crest, hinder crown, cheeks, ear-coverts, and upper half of the neck silky white; bare skin round the eye pale crimson, with some tiny black feathers beneath the eye; remainder of the neck and fore part of chest grass-green, which colour extends up the throat and fades away towards the upper part; mantle, glossy portion of the wings, back, upper tail-coverts, and tail deep violet-blue; remainder of the body slate-colour, partially glossed with blue on the flanks and under tail-coverts; under wing-coverts similar, but also partially washed with grass-green: iris brown; bill yellow, partially shaded with olive towards the nostrils; legs black. Total length 16 inches, culmen 1·15, wing 6·5, tail 7·1, tarsus 1·45.

*Adult female.* Similar in plumage to the male. Total length 15·7 inches, culmen 1·1, wing 6·3, tail 7, tarsus 1·5.

*Hab.* Central Africa west of the Upper White Nile, from the Bar-el-Gazal to the Albert Nyanza; abundant in the Niam-Niam Country.

| | | |
|---|---|---|
| *a.* Ad. sk. | Semmio, Niam-Niam Country, March. | F. Bohndorff [C.]. |
| *b*, *c.* ♂ ♀ ad. sk. | Kamari, Equatorial Africa, Dec. (*Emin Pasha*). | Shelley Coll. |
| *d.* ♂ ad. sk. | Faradjak, Sept. (*Emin Pasha*). | Shelley Coll |
| *e.* ♀ ad. sk. | Kabajendi, August. | Emin Pasha [P.]. |

## 14. Turacus hartlaubi.

Corythaix hartlaubi, *Fisch. & Reichen. J. f. O.* 1884, p. 52; *Fisch. Zeitschr. ges. Orn.* 1884, p. 363; *id. J. f. O.* 1885, p. 123, pl. 5. fig. 1; *Schalow, J. f. O.* 1886, p. 39; *Reichen. J. f. O.* 1887, p. 57.

Turacus hartlaubi, *Shelley, P. Z. S.* 1884, p. 224, 1889, p. 358.

*Adult male.* Upper half of the head and entire crest steel-blue, with a large patch of silky white in front of the eye; bare skin round the eye scarlet, margined below by a steel-blue band which widens over the cheeks and extends across the gape; below this a silky white band extending from the gape to beyond the ear-coverts; chin, neck, and chest grass-green; glossy portions of the wings, the back, upper tail-coverts, and tail glossy violet-blue; the mantle and wing-coverts much washed with the same green as the neck; remainder of the body dusky slate-colour, partially glossed with violet-blue; under wing-coverts similar, but partially washed with grass-green: bill olive, shading into orange-red towards the ends of both mandibles; iris brown; legs black. Total length 16 inches, culmen 1·1, wing 6·3, tail 7·7, tarsus 1·65.

*Adult female.* Similar in plumage to the male. Total length 16 inches, culmen 1·1, wing 6·7, tail 8, tarsus 1·65.

*Hab.* East Africa south of the Equator, the highlands of Masai-land and Kilimanjaro.

| | | |
|---|---|---|
| *a*. Ad. sk. | Masai-land. | H. C. V. Hunter, Esq. [P.]. |
| *b*, *c*. ♂ ♀ ad. sk. | Kilimanjaro, Aug. | H. C. V. Hunter, Esq. [P.]. |
| *d*, *e*. ♂ ♀ ad. sk. | Kilimanjaro (10,000 ft.; *H. H. Johnston*). | British Association [P.]. |

## 2. GALLIREX.

| | Type. |
|---|---|
| Gallirex, *Less. Echo du Monde Sav.* col. 100 (1844) | G. porphyreolophus. |

*Range.* N.E. Africa and East Africa, extending south to Natal and to the Knysna district of the Cape Colony.

*Key to the Species.*

*a*. With a strong shade of pink in front of the mantle and chest ..... *porphyreolophus*, p. 446.
*b*. With no shade of pink on the plumage .... *chlorochlamys*, p. 447.

### 1. Gallirex porphyreolophus.

Musophaga porphyreolophus, *Vig. P. Z. S.* 1831, p. 93 (June); *Schl. & Westerm. Toerako's*, p. 12, pl. 3 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 75 (1864).
Corythaix burchellii, *Smith, S. Afr. Quart. Journ.* 1831, p. 13 (October).
Gallirex anais, *Less. Echo du Monde Sav.* 1844, p. 110.
Corythaix porphyreolophus, *Smith, Ill. Zool. S. Afr.* pl. 35 (1839); *Jard. & Selby, Ill. Orn.* pl. 46 (c. 1839); *Cab. & Heine, Mus. Hein.* iii. p. 99 (1860); *Gurney, Ibis*, 1862, p. 32; *Kirk, Ibis*, 1864, p. 329; *Layard, B. S. Afr.* p. 227 (1867); *Finsch, J. f. O.* 1867, p. 248; *Sharpe, Cat. Afr. B.* p. 11 (1871); *id. ed. Layard's B. S. Afr.* p. 142 (1875); *Shelley, Ibis*, 1875, p. 82; *Souza, Jorn. Lisb.* 1886, p. 78.
Gallirex porphyreolophus, *Less. Descr. Mamm. & Ois.* p. 352 (1847); *Schalow, J. f. O.* 1886, p. 50.
Turacus porphyreolophus, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 87 (1850); *Jard. Contr. Orn.* 1852, p. 74; *Gray, Hand-l. B.* ii. p. 125, no. 7858 (1870).

*Adult male.* Forehead, sides of the head, chin, lores, and back of upper neck metallic green, passing into glossy violet-blue on the crest and nape; eyelids scarlet; neck and front of chest grass-green, with a strong pink shade towards the mantle and chest; mantle and wing-coverts ashy blue, shading into green towards the neck and on the least wing-coverts; remainder of the glossy part of the wings, upper tail-coverts, and tail greenish blue; back duller and more dusky; primaries as in species of *Turacus*, crimson, with the outer one and the borders of the others black; remainder of the body and under wing-coverts dusky ash-colour, darker and partially washed with glossy green on the under tail-coverts: iris dark brown; bill

and legs black. Total length 17·3 inches, culmen 1·15, wing 7·1, tail 8, tarsus 1·65.

*Hab.* Confined to South Africa, ranging from the Zambesi through Natal to the Knysna in Cape Colony.

| | | |
|---|---|---|
| *a, b.* Ad. st. | Natal. | Purchased. |
| *c.* Ad. sk. | Natal. | Sir A. Smith. |
| *d.* Ad. sk. | Natal. | Sharpe Coll. |
| *e–k.* Ad. sk. | Durban, April (*G. E. S.*). | Shelley Coll. |
| *l.* Ad. st. | Zambesi (*Sir J. Kirk*). | Livingstone Expedition. |
| *m.* Ad. sk. | Zambesi (*Dr. Meller*). | Shelley Coll. |

### 2. Gallirex chlorochlamys.

Corythaix porphyreolophus (*nec Vig.*), *Rüpp. Neue Wirb., Vög.* p. 7 (1835–40); *Finsch & Hartl. Vög. Ostafr.* p. 473 (1870); *Böhm, J. f. O.* 1882, p. 208; *Dubois, Bull. Mus. Belg.* iii. p. 147 (1884).
Turacus porphyreolophus, *Rüpp. Arch. f. Naturg.* xvii. p. 321 (1851); *id. Contr. Orn.* 1852, p. 74; *Gray, P. Z. S.* 1864, p. 45.
Gallirex chlorochlamys, *Shelley, Ibis*, 1881, p. 118; *id. P. Z. S.* 1881, p. 590, 1885, p. 358; *Böhm, J. f. O.* 1885, p. 42; *Fischer, t. c.* p. 123; *Schalow, J. f. O.* 1886, p. 52; *Reichen. J. f. O.* 1887, p. 57.

*Adult.* Similar to *G. porphyreolophus*, but differs in having the grass-green portions of the plumage uniform, with no trace of a pink shade. Total length 16·3 inches, culmen 1·1, wing 7·3, tail 8, tarsus 1·5.

*Hab.* The whole of Eastern Africa, replacing *G. porphyreolophus* north of the Zambesi, and extending to Abyssinia.

| | | |
|---|---|---|
| *a.* Ad. sk. | Zambesi, June. | Gould Coll. |
| *b.* Ad. sk. | Zambesi. | Livingstone Expedition. |
| *c.* Ad. sk. | Shupanga, Shiré River. | Livingstone Expedition. |
| *d.* ♂ ad. sk. | Mozambique, April 30 (*H. H. Johnston*). | P. L. Sclater, Esq. [P.]. |
| *e.* Ad. sk. | Rovuma River (*J. Thomson*). | Shelley Coll. |
| *f, g.* Ad. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. (Types of species.) |
| *h, i.* Imm. sk. | Mamboio (*Sir J. Kirk*). | Shelley Coll. |
| *k.* ♂ ad. sk. | Duruma, Aug. | H. C. V. Hunter, Esq. [P.]. |

## 3. MUSOPHAGA.

| | Type. |
|---|---|
| Musophaga, *Isert, Journ. Phys. Paris*, xxxiv. p. 458 (1789). | M. violacea. |
| Phimus, *Wagler, Syst. Av.*, Phimus, p. 114 (1827) ..... | M. violacea. |

*Range.* West and Central Africa from Angola to Senegambia and inland to Lake Tanganyika and the Niam-Niam Country.

*Key to the Species.*

*a.* With no elongated crest-feathers; with a white band on the side of the head ..... *violacea*, p. 448.
*b.* With an elongated crest; with no white on side of head ..... *rossæ*, p. 448.

### 1. Musophaga violacea.

Musophaga violacea, *Isert, Schrift. Ges. naturf. Freunde Berlin*, iii. p. 18, pl. 1 (1789); *Swains. B. W. Afr.* i. p. 218, pl. 19 (1837); *Gray, Gen. B.* ii. p. 394, pl. 97. fig. 3 (1845); *Bp. Consp.* i. p. 159 (1850); *Hartl. J. f. O.* 1854, p. 126; *id. Orn. W.-Afr.* p. 159 (1857); *Schl. & Westerm. Toerako's*, p. 10, pl. 1 (1866); *Schl. Mus. Pays-Bas*, Cuculi, p. 74 (1864); *Gray, Hand-l. B.* ii. p. 124, no. 7847 (1870); *Ussher, Ibis*, 1874, p. 52; *Reichen. J. f. O.* 1875, pp. 2, 48; *Shelley, Ibis*, 1883, p. 558; *Schalow, J. f. O.* 1886, p. 13.

Cuculus regius, *Shaw, Mus. Leverianum*, p. 165, pl. 40 (1792).

Le Touraco violet ou Masqué, *Levaill. Hist. Nat. Prom.* p. 34, pl. 18 (1806).

Phimus violaceus, *Wagl. Syst. Av.* sp. 1 (1827).

*Adult.* General plumage glossy violet-blue, duller and blacker on the lower back, abdomen, thighs, under tail- and wing-coverts; feathers of the crown and nape crimson, short and rather hair-like in texture; bare patch round the eye extending to the bill scarlet; beneath the hinder half of this bare patch a white band extends back to the end of the ear-coverts; quills crimson, with the outer feather and the borders and shafts of the others black; lower throat and front of chest washed with glossy green: bill orange-red, fading into yellow on the frontal half of the upper mandible; iris brown; legs black. Total length 17·5 inches, culmen 1·9, wing 8, tail 8·7, tarsus 1·6.

*Immature.* Differs from the adult in having the feathers of the head purplish black, with a few red feathers on the crown and a few white ones near the ear-coverts.

*Hab.* Confined to West Africa, where it ranges from the Cameroons to Senegambia.

| | | |
|---|---|---|
| *a, b.* Ad. et juv. st. | West Africa. | Dr. Gray [P.]. |
| *c, d.* Ad. et juv. sk. | West Africa. | |
| *e.* Ad. sk. | Senegal. | Shelley Coll. |
| *f.* Imm. st. | Senegal. | Purchased. |
| *g.* Ad. st. | Gambia. | Rev. Morgan. |
| *h.* Ad. sk. | River Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *i.* ♀ ad. sk. | Bissao. | Sharpe Coll. |

### 2. Musophaga rossæ.

Musophaga rossæ, *Gould, P. Z. S.* 1851, p. 93; *id. in Jard. Contr. Orn.* 1851, p. 137, pl. 81; *id. P. Z. S.* 1854, p. 24; *Hartl. J. f. O.* 1854, p. 126; *id. Orn. W.-Afr.* p. 160 (1857); *Schl. & Westerm. Toerako's*, p. 11, pl. 2 (1866); *Gould, P. Z. S.* 1871, p. 1; *Sharpe, t. c.* p. 134; *Bouvier, Cat. Marche &c.* p. 27 (1875); *Bocage, Orn. Angola*, p. 133 (1877); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 433 (1884); *Schalow, J. f. O.* 1886, p. 14; *Souza, Jorn. Lisb.* 1886, p. 3; *Reichen. J. f. O.* 1887, p. 57; *Matschie, t. c.* pp. 136, 149; *Schalow, t. c.* p. 351; *Shelley, P. Z. S.* 1888, p. 43.

Musophaga böhmii, *Schalow, Zeitschr. ges. Orn.* 1884, p. 103, pl. 6; *id. J. f. O.* 1885, p. 108.

*Adult.* Similar to *M. violacea*, but differs in having a well-marked crest, no white band on the side of the head, a violet-blue margin between the bare eye-patch and the crest, and scarcely a trace of green on the lower throat. Total length 19 inches, culmen 1·8, wing 8·5, tail 9·5, tarsus 1·85.

*Hab.* Angola to Lake Tanganyika and north to Semmio in the Niam-Niam Country.

| | | |
|---|---|---|
| *a.* Ad. sk. | Semmio, Niam-Niam Country, Feb. | F. Bohndorff [C.]. |
| *b.* ♀ ad. sk. | Tingasi, Equatorial Africa, Aug. | Emin Pasha [P.]. |
| *c.* Ad. sk. | Angola. | Gould Coll. (Type of the species). |
| *d.* Ad. sk. | Angola (*Hamilton*). | Gould Coll. |

## 4. CORYTHÆOLA.

Type.
Corythæola, *Heine, J. f. O.* 1860, p. 190 ..... C. cristata.

*Range.* West and Central Africa, from Angola and the Island of Fernando Po to Senegambia, and from the northern watershed of the Congo to Monbuttu and Niam-Niam.

### 1. Corythæola cristata.

Le Touraco Géant, *Levaill. Hist. Nat. Prom. etc.* p. 36, pl. 19 (1806).
Musophaga cristata, *Vieill. Analyse*, p. 68 (1816).
Musophaga gigantea, *Vieill. Enc. Méth.* p. 1295 (1823); *Hartl. J. f. O.* 1855, p. 361; *Schl. & Westerm. Toerako's*, p. 20, pl. 12 (1860); *Sharpe, Ibis*, 1869, p. 385, 1870, p. 473; *id. Cat. Afr. B.* p. 10 (1871).
Blue Curassow, *Lath. Gen. Hist. B.* viii. p. 156 (1823).
Corythaix gigas, *Steph. Gen. Zool.* xiv. p. 222 (1826).
Chizærhis gigantea, *Wagl. Syst. Av.* sp. 1 (1827).
Crax cyaneus, *J. E. Gray in Griff. An. Kingd.* iii. p. 117 (1829).
Gallirex giganteus, *Less. Echo du Monde Sav.* 1844, p. 110.
Turacus giganteus, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 87 (1850); *Rüpp. Arch. f. Naturg.* xviii. p. 322 (1851); *Jard. Contr. Orn.* 1852, pp. 74, 78; *Hartl. J. f. O.* 1854, p. 125; *id. Orn. W.-Afr.* p. 159 (1857); *Heine, J. f. O.* 1860, p. 190; *Bocage, Orn. Angola*, p. 133 (1877); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 438 (1884).
Phimus giganteus, *Sundev. Œfv. K. Vet.-Ak. Förh.* 1849, p. 161, pl. 17.
Turacus cristatus, *Bp. Consp.* i. p. 88 (1850); *Gray, Hand-l. B.* ii. p. 126, no. 7859 (1870); *Ussher, Ibis*, 1874, p. 51; *Sharpe, P. Z. S.* 1878, p. 134.
Corythæola cristata, *Heine, J. f. O.* 1860, p. 190; *Schalow, J. f. O.* 1886, p. 55; *Shelley, P. Z. S.* 1888, p. 44.
Turacus gigas, *Reichen. J. f. O.* 1875, pp. 1, 48.
Schizorhis cristatus, *Bouvier, Cat. Marche &c.* p. 27 (1875).

*Adult male.* General plumage above verditer-blue, passing into black on the crest and nape; two centre tail-feathers and ends of all the others blue like the back, all with a broad black subterminal bar, the remainder dull yellow with blue bases; bare patch round

the eye grey; cheeks and chin white, shading into verditer-blue on the remainder of the neck; chest pale green; abdomen, thighs, and under tail-coverts rufous-brown; under surface of tail marked with yellow like the upper surface, the remainder black; under surface of wings black, with a large portion of the smaller coverts verditer-blue: "bill yellow, with a large terminal portion scarlet; iris red; legs dusky black" (*Emin Pasha*). Total length 28 inches, culmen 1·7, wing 12·3, tail 14·5, tarsus 2·1.

*Adult female.* Similar in plumage to the male. Total length 29 inches, culmen 1·8, wing 12·6, tail 14·7, tarsus 2·25.

*Hab.* The same as that of the genus.

| | | |
|---|---|---|
| *a*. Ad. sk. | West Africa. | Purchased. |
| *b*. Ad. st. | Fernando Po. | T. Thomson, Esq. [P.]. |
| *c*, *d*. Ad. sk. | Denkera (*H. T. Ussher*). | Shelley Coll. |
| *e*. Ad. sk. | Fantee (*Aubinn*). | Sharpe Coll. |
| *f*. Ad. sk. | Cameroons Mountains (*Crossley*). | Sharpe Coll. |
| *g*. Ad. sk. | Gaboon. | H. T. Ansell, Esq. [P.]. |
| *h*. Ad. sk. | Semmio, Niam-Niam Country, Feb. | F. Bohndorff [C.]. |
| *i*–*n*. Ad. sk. | Tingasi, Equatorial Africa, July, Sept. | Emin Pasha [P.]. |
| *o*, *p*. Ad. sk. | Angola. | Sharpe Coll. |
| *q*. Skeleton. | | Eyton Coll. |

## 5. SCHIZORHIS.

| | Type. |
|---|---|
| Chizærhis, *Wagl. Syst. Av.* p. 111 (1827) | S. africana. |
| Schizorhis, *Wagl. Isis*, 1829, p. 656 | S. africana. |
| Corythaixoides, *Smith, S. Afr. Quart. Journ.* i. p. 48 (1833) | S. concolor. |
| Colophimus, *Smith, Rep. Exp. Centr. Afr.* p. 54 (1836) | S. concolor. |
| Ichthierax, *Kaup, Class. Säug. u. Vög.* p. 111 (1844) | S. africana. |

*Range.* The whole of the Ethiopian Region.

*Key to the Species.*

*a*. Bill yellow; crest-feathers lanceolate.
  *a'*. With no white on the tail ..... *africana*, p. 450.
  *b'*. With a white bar on the tail ..... *zonura*, p. 451.
*b*. Bill black or olive; crest-feathers not lanceolate.
  *c'*. Breast and a bar on the tail white ..... *leucogaster*, p. 452.
  *d'*. Entire plumage ashy grey ..... *concolor*, p. 453.

### 1. Schizorhis africana.

Phasianus africanus, *Lath. Ind. Orn.* p. 631 (1790).
Le Touraco Musophaga, *Levaill. Hist. Nat. Prom. etc.* p. 37, pl. 20 (1806).
Musophaga senegalensis, *Licht. Verz. Doubl.* p. 7 (1823).
Musophaga variegata, *Vieill. Enc. Méth.* p. 1296 (1823); *id. Gal. Ois.* p. 44, pl. 48 (1825).

Chizærhis variegatus, *Wagl. Syst. Av.* sp. 2 (1827); *Swains. B. W. Afr.* p. 223, pl. 20 (1837).
Corythaix variegatus, *Less. Traité*, p. 124 (1831).
Schizorhis africanus, *Gray, Gen. B.* ii. p. 395, pl. 97. fig. 2 (1845); *Bp. Consp.* i. p. 88 (1850); *Hartl. J. f. O.* 1854, p. 126; *id. Orn. W.-Afr.* p. 160 (1857); *Sharpe, Ibis*, 1870, p. 485; *id. Cat. Afr. B.* p. 11 (1871); *Shelley, Ibis*, 1872, p. 286; *Ussher, Ibis*, 1874, p. 52; *Bouvier, Cat. Marche &c.* p. 27 (1875); *Shelley, Ibis*, 1883, p. 558; *Schalow, J. f. O.* 1886, p. 67.
Musophaga africana, *Vernon Harcourt, P. Z. S.* 1851, p. 145; *Schl. & Westerm. Toerako's*, p. 23, pl. 16 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 79 (1864).
Turacus africanus, *Gray, Hand-l. B.* ii. p. 126, no. 7860 (1870).

*Adult male.* Head dark brown, freckled with white on the fore part of the crown and the sides of the head; the lanceolate crest-feathers narrowly edged with white; back of neck, mantle, and wing-coverts ashy grey, most of the feathers with dark brown shaft-stripes widening into subterminal spots; bastard-wing, outer greater coverts, and quills black, the primaries with the greater portion of the inner webs towards the base white; back and upper tail-coverts browner ashy than the mantle, with narrow dark brown shaft-stripes to each feather; tail black, fading into ashy brown on the greater part of the centre pair and towards the base of a few of the next feathers; chin and throat dark brown, with white edges to the feathers of the lower part; chest, abdomen, thighs, under tail- and wing-coverts white, with narrow dark brown shaft-stripes: bill yellow; iris and legs dark brown. Total length 17·8 inches, culmen 1·2, wing 8·5, tarsus 1·55.

*Adult female.* Similar in plumage to the male. Total length 17·7 inches, culmen 1·2, wing 8·3, tail 9·2, tarsus 1·6.

*Hab.* West Africa, from the Niger to Senegambia and inland to Stanley Pool on the Congo.

| | | |
|---|---|---|
| *a, b.* Ad. st. | West Africa. | Captain Strachan [P.]. |
| *c.* Ad. sk. | West Africa. | Purchased. |
| *d.* Ad. sk. | Senegal. | Riocour Coll. |
| *e, f.* Ad. sk. | River Gambia (*Sir A. Moloney*). | Shelley Coll. |
| *g.* Ad. sk. | Bathurst. | Shelley Coll. |
| *h, i.* ♂ ♀ ad. sk. | Accra, Feb. (*G. E. S.*). | Shelley Coll. |
| *k.* Ad. sk. | River Volta (*H. T. Ussher*). | Sharpe Coll. |
| *l.* Ad. sk. | River Niger (*Baikie*). | Sharpe Coll. |
| *m.* ♀ ad. sk. | Shonga, River Niger (*A. W. F.*). | Forbes Coll. |

## 2. Schizorhis zonura.

Schizærhis zonura, *Rüpp. Neue Wirb., Vög.* p. 9, pl. 4 (1835-40); *Blanf. Geol. & Zool. Abyss.* p. 316 (1870).
Coliphimus concolor (*nec Smith*), *Harris, Highl. Aethiop.* ii. App. p. 41 (pt., 1844).
Chizærhis zonura, *Rüpp. Syst. Uebers.* p. 80 (1845).
Schizorhis zonurius, *Gray, Gen. B.* ii. p. 395 (1845); *Hartmann, J. f. O.* 1864, pp. 150, 231.

Schizorhis zonura, *Cab. & Heine, Mus. Hein.* iii. p. 101 (1860); *Blanf. Geol. & Zool. Abyss.* p. 316 (1870); *Finsch, Trans. Z. S.* vii. p. 277 (1870); *Sharpe, Cat. Afr. B.* p. 11 (1871); *Heugl. Orn. N.O.-Afr.* i. p. 705, iv. p. cliii (1871–72); *Antin. & Salvad. Viagg. Bogos*, p. 52 (1873); *Heugl. J. f. O.* 1875, p. 55; *Hartl. Abhandl. nat. Ver. Brem.* vii. p. 114 (1881); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 433 (1884); *Schalow, J. f. O.* 1886, p. 69; *Reichen. J. f. O.* 1887, p. 56.

Musophaga zonura, *Schl. & Westerm. Toerako's*, p. 24, pl. 17 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 79 (1864).

Turacus zonura, *Gray, Hand-l. B.* ii. p. 126, no. 7861 (1870).

*Adult male.* Similar in plumage to *S. africana*, but differs in having no white freckling on the crown; the elongated crest-feathers extending further back and covering the back and sides of the nape, and more broadly tipped and partially edged with white, the feathers of the mantle and wing-coverts with rather broad dusky terminal edges and only a mere trace of a shaft-stripe; the white on the wing less extended, consisting of a patch about halfway down the inner web of each primary; back and upper tail-coverts with scarcely visible dark shafts; centre tail-feathers as in *S. africana*, the remainder crossed by a broad white band about 2·5 inches from the end of the feathers; chest, abdomen, thighs, and under tail-coverts less striped and partially mottled with dusky; under wing-coverts dusky black, partially edged with white. Total length 19 inches, culmen 1·2, wing 9·5, tail 10·7, tarsus 1·7.

*Adult female.* Similar in plumage to the male. Total length 20·5 inches, culmen 1·2, wing 10, tail 10·7, tarsus 1·7.

*Hab.* North-east Africa, from Bogos-Land through Abyssinia and the White Nile districts to Niam-Niam.

| | | | |
|---|---|---|---|
| *a.* | ♂ ad. sk. | Bejook, Bogos-Land, July (*W. Jesse*). | Salvin-Godman Coll. |
| *b.* | ♀ ad. sk. | Maragaz, July (*W. Jesse*). | Tweeddale Coll. |
| *c.* | ♂ ad. sk. | Waliko, Anseba Valley, July. | W. T. Blanford, Esq. [C.]. |
| *d.* | ♀ ad. sk. | Waliko, July (*W. Jesse*). | Tweeddale Coll. |
| *e.* | Ad. st. | Abyssinia. | Dr. Rüppell. |
| *f.* | Ad. sk. | Abyssinia. | Purchased. |
| *g.* | ♀ ad. sk. | Misheh, S. of Antalo, May. | W. T. Blanford, Esq. [C.]. |
| *h.* | ♀ ad. sk. | Senafé, May (*W. Jesse*). | Shelley Coll. |
| *i.* | Ad. sk. | Kutschugali, Sept. | F. Bohndorff [C.]. |
| *k.* | ♀ ad. sk. | Fadibec, Equatorial Africa, Feb. (*Emin Pasha*). | Shelley Coll. |

### 3. Schizorhis leucogaster.

Chizærhis leucogaster, *Rüpp. P. Z. S.* 1842, p. 9; *id. Trans. Z. S.* iii. p. 232, pl. 17 (1842); *id. Syst. Uebers.* p. 80 (1845).

Coliphimus fasciatus, *Harris, Highl. Aethiop.* ii. p. 413 (1844).

Schizorhis leucogaster, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 88 (1850); *Speke, Ibis*, 1860, p. 245; *Cab. in v. d. Decken's Reisen*, iii. p. 38 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 477 (1870); *Heugl. Orn. N.O.-Afr.* i. p. 707, iv. p. cliii (1871–72);

*Cab. J. f. O.* 1878, pp. 214, 237; *Reichen. J. f. O.* 1879, p. 340; *Hartl. Abhandl. nat. Ver. Brem.* viii. p. 210 (1882); *Böhm, J. f. O.* 1882, p. 208; *Salvad. Ann. Mus. Genov.* (2) i. p. 99 (1884); *Fisch. Zeitschr. ges. Orn.* 1884, p. 364; *id. J. f. O.* 1885, p. 122; *Shelley, Ibis*, 1885, p. 400; *Schalow, J. f. O.* 1886, p. 63; *Reichen. J. f. O.* 1887, p. 56; *Shelley, Ibis*, 1888, p. 298; *Salvad. Ann. Mus. Civ. Gen.* (2) vi. p. 216 (1888).

Musophaga leucogaster, *Schl. & Westerm. Toerako's*, p. 22, pl. 15 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 78 (1864).

Turacus leucogaster, *Gray, Hand-l. B.* ii. p. 126, no. 7863 (1870).

Schizorhis leucogaster, var. pallidirostris, *Hildebrandt, J. f. O.* 1878, p. 237.

*Adult male.* General plumage above ashy grey, deepening into black on the end half of crest-feathers; median and greater wing-coverts with black ends, forming partial bars; bastard-wing, outer greater wing-coverts, and the primaries black, with white bases to the latter, forming a speculum on the wing; secondaries with their inner webs and terminal portion of the outer ones blackish; two centre tail-feathers ashy grey, the others with the end and basal third black, with a broad intermediate band of white; sides of head, chin, and entire neck grey like the mantle; breast, under tail- and wing-coverts, and base of quills white; remainder of the quills black; tail beneath blacker than above, with no shade of grey: "iris brown; bill and legs olive-black" (*Fischer*). Total length 17·5 inches, culmen 0·95, wing 8·3, tail 11·0, tarsus 1·6.

*Adult female.* Similar in plumage to the adult male, but may probably be distinguished by the paler colour of the bill, which is "pale green, with the culmen and tip yellow" (*Emin Pasha*). Total length 20 inches, culmen 1·0, wing 8·3, tail 10·7, tarsus 1·55.

*Immature male.* Similar in plumage to the adult, with the same dark bill as in the adult male, but differs in having the broad pale ends to the tail-feathers obscurely marked.

*Hab.* East Africa between 8° N. lat. and 8° S. lat.; from Southern Abyssinia through Shoa, Somali-land, and the Upper White Nile District to Ugogo.

| | | |
|---|---|---|
| *a, b.* Ad. st. | Shoa (*Sir W. Harris*). | India Museum. |
| *c, d.* Ad. sk. | Efat, Shoa (*Sir W. Harris*). | India Museum. |
| *e.* ♀ ad. sk. | Tarrangole, Equatorial Africa, April (*Emin Pasha*). | Shelley Coll. |
| *f.* ♂ ad. sk. | Massa, Nov. (*Dr. Fischer*). | Shelley Coll. |
| *g, h.* ♂ ♀ ad.; *i.* ♂ juv. sk. | Ndi, Teita, Feb., July. | Dr. Hildebrandt [C.]. |
| *k, l.* Ad. sk. | Lamo. | F. J. Jackson, Esq. [P.]. |

### 4. Schizorhis concolor.

Opæthus persa, juv. (*nec Linn.*), *Less. Traité*, p. 123 (1831).

Corythaix concolor, *Smith, S. Afr. Quart. Journ.* 1833, p. 48.

Corythaixoides concolor, *Smith, t. c.* p. 48.

Colyphimus concolor, *Smith, Rep. Exp. Centr. Afr.* App. 1836, p. 54.

Chizærhis concolor, *Smith, Ill. Zool. S. Afr.* pl. 2 (1838).
Chizærhis feliciæ, *Less. Rev. et Mag. Zool.* 1839, p. 101.
Schizorhis concolor, *Gray, Gen. B.* ii. p. 395 (1845); *Bp. Consp.* i. p. 88 (1850); *Cab. & Heine, Mus. Hein.* iii. p. 101 (1860); *Kirk, Ibis*, 1864, p. 329; *Hartl. P. Z. S.* 1865, p. 88; *Monteiro, t. c.* p. 91; *Layard, B. S. Afr.* p. 224 (1867); *Gurney, Ibis*, 1868, p. 268; *Ayres, Ibis*, 1869, p. 296; *Layard, t. c.* p. 372; *Finsch & Hartl. Vög. Ostafr.* p. 479 (1870); *Sharpe, Cat. Afr. B.* p. 11 (1871); *Gurney in Anderson's B. Damara-Ld.* p. 204 (1872); *Buckley, Ibis*, 1874, p. 366; *Sharpe, ed. Layard's B. S. Afr.* pp. 144, 809 (1875–85); *Bocage, Orn. Angola*, p. 134 (1877); *Shelley, Ibis*, 1882, p. 245; *Fischer, J. f. O.* 1885, p. 123; *Sousa, Jorn. Lisb.* 1886, pp. 2, 9; *Schalow, J. f. O.* 1886, p. 60; *Matschie, J. f. O.* 1887, p. 149; *Sousa, Jorn. Lisb.* 1889, p. 114.
Musophaga concolor, *Schl. & Westerm. Toerako's*, p. 21, pl. 13 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 78 (1864).
Turacus concolor, *Gray, Hand-l. B.* ii. p. 126, no. 7864 (1870).

*Adult male.* Entire plumage nearly uniform ash-colour, slightly paler on the sides of the head, slightly browner on the crest, and greyer on the mantle, wings, and tail, where it passes into dusky brown on the outer wing-coverts, quills, and ends of the tail-feathers, especially on the outer ones; lower throat generally but not always washed with olive-green: "bill and legs black; iris dark grey" (*T. E. Buckley*). Total length 17 inches, culmen 1, wing 8·5, tail 10, tarsus 1·55.

*Adult female.* Similar in plumage to the male. Total length 15·6 inches, culmen 1·0, wing 8·0, tail 10·0, tarsus 1·45.

*Hab.* Confined to the South-African Subregion and Angola; plentiful from the Zambesi to Natal, and from Damara-Land to Angola, but rare in Cape Colony. Its occurrence in Senegambia as recorded by Dr. Rochebrune is undoubtedly an error.

| | | |
|---|---|---|
| *a.* Ad. st. | South Africa. | Purchased. |
| *b, c.* Ad. et juv. sk. | South Africa. | Sir A. Smith. (Types of the species.) |
| *d, e.* Ad. sk. | South Africa. | Earl of Derby [P.]. |
| *f.* Ad. sk. | Natal. | Tweeddale Coll. |
| *g.* ♀ ad. sk. | Swaziland, July (*T. E. Buckley*). | Shelley Coll. |
| *h, i.* ♂ ♀ ad. sk. | Transvaal (*T. Ayres*). | Sharpe Coll. |
| *k, l.* Ad. sk. | Transvaal, Dec., July (*F. Oates*). | W. E. & C. G. Oates, Esqrs. [P.]. |
| *m.* Ad. sk. | Zambesi. | Sir John Kirk [P.]. |
| *n, o.* Ad. sk. | Tete, Zambesi. | Livingstone Expedition. |
| *p.* Ad. sk. | Upper Shiré River, March. | Gould Coll. |
| *q, r.* Ad. sk. | Otjimbinque, Damara-Land, July, Sept. (*C. J. Andersson*). | Tweeddale Coll. |
| *s.* Ad. sk. | Angola. | Monteiro Coll. |
| *t.* Ad. sk. | Huilla, Angola (*Anchieta*). | Sharpe Coll. |
| *u, v.* ♂ ♀ ad. sk. | Capangombe, Aug. (*Anchieta*). | Shelley Coll. |
| *w, x.* ♂ ♀ ad. sk. | Galungo, Loanda, Aug., Sept. (*Sala*). | Sharpe Coll. |

## 6. GYMNOSCHIZORHIS.

Type.
Gymnoschizorhis, *Schalow, J. f. O.* 1886, p. 72 ..... G. personata.

*Range.* East Africa from Shoa to Ugogo.

*Key to the Species.*

*a.* Bare face brown; under surface of tail and quills green ..... *personata*, p. 455.
*b.* Bare face black; under surface of tail and quills silver-grey ..... *leopoldi*, p. 456.

### 1. Gymnoschizorhis personata.

Chizærhis personata, *Rüpp. P. Z. S.* 1842, p. 8; *id. Trans. Z. S.* iii. p. 232, pl. 16 (1842).
Coliphimus concolor (*nec Smith*), *Harris, Highl. Aethiop.* ii. p. 412 (pt., 1844).
Schizorhis personata, *Gray, Gen. B.* ii. p. 395 (1845); *Rüpp. Syst. Uebers.* p. 80 (1845); *Bp. Consp.* i. p. 88 (1850); *Scl. P. Z. S.* 1864, p. 112; *Heugl. Orn. N.O.-Afr.* i. p. 708, iv. p. cliv. pl. 25 (1871–72); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 98.
Musophaga personata, *Schl. & Westerm. Toerako's*, p. 22, pl. 14 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 78 (1864).
Turacus personata, *Gray, Hand-l. B.* ii. p. 126, no. 7862 (1870).
Gymnoschizorhis personata, *Schalow, J. f. O.* 1886, p. 75.

*Adult male.* Fore part of the face to behind the eyes, chin, and upper throat dark brown, the skin partially covered with tiny obsolete shafts of brownish feathers; forehead and crest pale brown, with a greenish shade on the latter; feathers behind the bare face white, passing into ashy white on the back of the neck; back, wings, and tail uniform greyish ash-colour; quills slightly browner; inner webs of all but the centre tail-feathers shaded with green; middle and lower throat and front of chest white, washed with olive down the centre; middle of the chest, sides of body, and under tail-coverts ashy grey, with a slight partial wash of green, and passing into pale pinkish rufous on the middle of the lower chest, abdomen, and thighs; under surface of the tail and the quills strongly washed with pale green; under wing-coverts greyish ash-colour: "iris pearl-grey; bill and legs brownish black" (*Antinori*). Total length 18·5 inches, culmen 1·1, wing 8·6, tail 11·0, tarsus 1·75.

*Adult female.* Similar in plumage to the male. Total length 18·3 inches, culmen 1·1, wing 8·7, tail 10·1, tarsus 1·75.

*Hab.* Shoa.

| | | |
|---|---|---|
| *a, b.* Ad. sk. | Shoa (*Sir W. Harris*). | India Museum. |
| *c, d.* ♂ ♀ ad. sk. | Shoa, Sept. (*Antinori*). | Shelley Coll. |

### 2. Gymnoschizorhis leopoldi.

Schizorhis personata (*nec Rüpp.*), *Scl. P. Z. S.* 1864, p. 112.
Schizorhis leopoldi, *Shelley, Ibis*, 1881, p. 117, pl. 2; *id. P. Z. S.* 1881, p. 591; *Böhm, J. f. O.* 1883, p. 162; *Schalow, t. c.* p. 345; *Dubois, Bull. Mus. Belg.* iii. p. 147 (1884).
Gymnoschizorhis leopoldi, *Schalow, J. f. O.* 1886, p. 72; *Reichen. J. f. O.* 1887, p. 56.

*Adult* (type of species). Similar to *G. personata*, but differing in having the bare skin of the head and throat jet-black; no trace of green on the crest, wings, or tail; under surface of wings and tail silvery grey; the green of the throat much darker than in *G. personata*, less in extent, and confined to the centre of the crop; chest uniform pink; abdomen, thighs, and under tail-coverts white, with a very faint pink wash; under wing-coverts silvery grey, washed with pink towards the bend of the wing; bill and legs black. Total length 20 inches, culmen 1·1, wing 8·9, tail 11, tarsus 1·65.

*Hab.* East Africa, from the Equator to Ugogo.

| | | |
|---|---|---|
| *a*, *b*. Ad. sk. | Ugogo (*Sir J. Kirk*). | Shelley Coll. (Types of the species.) |
| *c*. Ad. sk. | Konko, Ugogo, Sept. | Purchased. |

# ADDENDA.

The following additions to the Collection have been made whilst the present volume was passing through the press. A few corrections have also been added.

Add :— Page 5. **Indicator indicator.**

*u*. ♂ ad. sk. Rustenberg, Nov. 3 (*T. Ayres*). Gurney Coll.

Add :— Page 6. **Indicator major.**

*r*. ♂ ad. sk. Rustenberg, July 17 (*T. Ayres*). Gurney Coll.

Add :— Page 24. **Melanobucco torquatus.**

*z*. ♀ ad. sk. Rustenberg, July 31 (*T. Ayres*). Gurney Coll.

Add :— Page 31. **Tricholæma leucomelan.**

*w*. ♀ ad. sk. Rustenberg, July 24 (*T. Ayres*). Gurney Coll.

Add :— Page 43. **Barbatula extoni.**

*i*, *k*. Ad. sk. Rustenberg, July (*T. Ayres*). Gurney Coll.

Add :— Page 44. **Barbatula bilineata.**

*b*. ♀ ad. sk. Olifants River, July 27 (*T. Ayres*). Gurney Coll.

Page 45. **Barbatula leucolæma.**

*For* "leucolæma, *J. & E. Verr.*," *read* "leucolaima."

Page 76. **Cyanops phæostriata.**

*For* "Bucco flavostrictus" *read* "Bucco faiostrictus."
*For* "Megalaima flavostriata" *read* "Megalaima faiostriata."

Add :— Page 100. **Trachyphonus cafer.**

| | | |
|---|---|---|
| *l*. ♀ ad. sk. | Rustenberg, June 6 (*T. Ayres*). | Gurney Coll. |

Page 104. Add :—

6 *a*. **Trachyphonus emini.**

Trachyphonus emini, *Reichen. J. f. O.* 1891, p. 4.

Similar to *T. boehmi*, but having a black throat.

*Hab.* E. Africa.

Add :— Page 125. **Rhamphastos carinatus.**

| | | |
|---|---|---|
| *k'*, *l'*. ♂ ♀ ad. sk. | Chimalpa (4000 feet), Tehuantepec, March (*W. B. Richardson*). | Salvin-Godman Coll. |

Add :— Page 141. **Pteroglossus torquatus.**

| | | |
|---|---|---|
| *x'*. ♂ ad. ; *y'*, *z'*. ♀ ad. sk. | Sierra S. Domingo, Tehuantepec, April (*W. B. Richardson*). | Salvin-Godman Coll. |
| *a''*, *b''*. Ad. sk. | Retalhuleu, Guatemala, July (*W. B. Richardson*). | Salvin-Godman Coll. |

Add :— Page 156. **Aulacorhamphus prasinus.**

| | | |
|---|---|---|
| *h'*, *i'*, *k'*. ♂ ♀ ad. et imm. sk. | Santa Maria, near Quezaltenango, Guatemala, Aug., Sept. (*W. B. Richardson*). | Salvin-Godman Coll. |

Add :— Page 212. **Coccystes glandarius.**

| | | |
|---|---|---|
| *o'*. ♂ ad. sk. | Transvaal, Jan. 18 (*T. Ayres*). | Gurney Coll. |
| *p'*. ♀ ad. sk. | Kroonstad, Orange Free State, Jan. (*E. Symonds*). | Gurney Coll. |

Add :— Page 217. **Coccystes jacobinus.**

| | | |
|---|---|---|
| *i**. Ad. sk. | Kroonstad, Dec. (*E. Symonds*). | Gurney Coll. |

Add :— Page 220. **Coccystes hypopinarius.**

| | | |
|---|---|---|
| *o*, *p*. ♂ ♀ imm. sk. | Potchefstroom, Jan. (*T. Ayres*). | Gurney Coll. |
| *q*. ♂ ad. sk. | Macamac, Nov. (*T. Ayres*). | Gurney Coll. |

Add :— Page 221. **Coccystes cafer.**

| | | |
|---|---|---|
| *s'*, *t'*. ♀ ad. sk. | Rustenberg, Nov., Feb. (*T. Ayres*). | Gurney Coll. |

Add :— Page 223. **Coccystes serratus.**

| | | |
|---|---|---|
| *o*. ♂ ad. sk. | Potchefstroom, Nov. 3 (*T. Ayres*). | Gurney Coll. |

Add :— Page 245. **Cuculus canorus.**

| | | |
|---|---|---|
| $y^{10}$. ♀ ad. sk. | Santa Cruz, Madeira, April 29. | W. R. Ogilvie Grant, Esq. [P.]. |
| $z^{10}$. Ad. sk. | Beyrout. | Gurney Coll. |
| $a^{11}$. ♂ ad. sk. | Damara-Land, Nov. (*C. J. Andersson*). | Gurney Coll. |
| $b^{11}$. ♂ imm. sk. | Potchefstroom (*T. Ayres*). | Gurney Coll. |

Add :— Page 252. **Cuculus intermedius.**

| | | |
|---|---|---|
| $l^4$–$o^4$. ♂ ♀ imm. sk. | Labuan, Oct., Nov. | A. H. Everett, Esq. [C.]. |

Add :— Page 285. **Chrysococcyx cupreus.**

| | | |
|---|---|---|
| $s''$–$x''$. ♂ ♀ ad.; $y''$–$f^3$. ♂ ♀ imm. sk. | Potchefstroom, Sept., Oct., Dec. to March (*T. Ayres*). | Gurney Coll. |
| $g^3$. ♂ ad. sk. | Transvaal (*T. Ayres*). | Gurney Coll. |
| $h^3$. Ad. sk. | Kroonstad, Orange Free State (*E. Symonds*). | Gurney Coll. |

Add :— Page 308. **Coccyzus americanus.**

| | | |
|---|---|---|
| $t''$, $u''$. ♂ ad. sk. | Brownsville, Texas, May (*F. B. Armstrong*). | Salvin-Godman Coll. |
| $v''$, $w''$. ♀ ad. sk. | Bolaños, Jalisco, Feb., April (*W. B. Richardson*). | Salvin-Godman Coll. |

Add :— Page 311. **Coccyzus erythrophthalmus.**

| | | |
|---|---|---|
| *t'*, *u'*, *v'*. ♀ ad. sk. | Brownsville, Texas, April, May (*F. B. Armstrong*). | Salvin Godman Coll. |
| *w'*. ♂ ad. sk. | Chuipaché, Quezaltenango (10,000 feet), Guatemala, September (*W. B. Richardson*). | Salvin-Godman Coll. |

Add :— Page 316. **Eudynamis honorata.**

| | | |
|---|---|---|
| *z*[11]. Imm. sk. | Labuan, January. | A. H. Everett, Esq. [C.]. |

Add :— Page 362. **Centropus natalensis.**

| | | |
|---|---|---|
| *b'*. ♀ ad. sk. | Rustenberg, Dec. 16 (*T. Ayres*). | Gurney Coll. |
| *c'*. ♂ ad. sk. | Tembe River, May 30 (*W. Ayres*). | Gurney Coll. |

Add :— Page 373. **Piaya cayana.**

| | | |
|---|---|---|
| *t*[6]. ♂ ad. sk. | Tehuantepec, Feb. 19 (*W. B. Richardson*). | Salvin-Godman Coll. |
| *u*[6]. Ad. sk. | Sierra S. Domingo, Tehuantepec, April 12 (*W. B. R.*). | Salvin-Godman Coll. |
| *v*[6]. ♂ ad. sk. | Chimalapa, Tehuantepec, March 11 (*W. B. R.*). | Salvin-Godman Coll. |
| *w*[6]. ♂ ad. sk. | Retalhuleu, Guatemala, July 17 (*W. B. R.*). | Salvin-Godman Coll. |
| *x*[6]. ♀ ad. sk. | Pie de la Cuesta, San Marcos, Guatemala, Nov. 5 (*W. B. R.*). | Salvin-Godman Coll. |

# ALPHABETICAL INDEX.


abbreviatus (Ramphastos), 128.
abruptus (Cuculus), 268.
Abyssinian Cuckow, 212.
Abyssinian Plant-cutter, 22.
abyssinica (Phytotoma), 22.
abyssinicus (Cuculus), 212.
abyssinicus (Hyreus), 22.
abyssinicus (Melanobucco), 22.
abyssinicus (Pogonorhynchus), 23.
Acentetus, 381.
acheenensis (Centrococcyx), 345.
ægyptius (Centropus), 352.
ægyptius (Corydonix), 361.
ægyptius (Cuculus), 349, 360.
ægyptius (Polophilus), 361.
ænea (Galbula), 170.
æneicauda (Phœnicophæus), 400.
æneicauda (Rhamphococcyx), 400.
æneicauda (Urococcyx), 400.
æneicauda (Dryococcyx), 400.
æneus (Ceuthmochares), 401, 402.
æneus (Phœnicophaes), 401.
æneus (Zanclostomus), 402, 403.
æquatorialis (Malacoptila), 196.
æquatorialis (Melanobucco), 19.
aeratus (Cuculus), 402.
aereus (Ceuthmochares), 402.
aereus (Cuculus), 402.
aereus (Phœnicophaes), 403.
aereus (Zanclostomus), 403.
æruginosus (Cacomantis), 274.
afer (Coccystes), 221.
afer (Cuculus), 221.
afer (Oxylophus), 217, 221.
affine (Tricholæma), 31.
affinis (Acentetus), 382.
affinis (Barbatula), 41.
affinis (Centrococcyx), 354.
affinis (Centropus), 354.
affinis (Corvus), 203.
affinis (Cuculus), 242.
affinis (Pogonorhynchus), 31.
affinis (Taccocua), 382.
affinis (Zanclostomus), 382.
africana (Schizorhis), 450, 451.
africana (Musophaga), 451.
africanus (Opæthus), 437, 439, 440.
africanus (Schizorhis), 451.
africanus (Phasianus), 450.
africanus (Turacus), 451.
albicollis (Indicator), 5.
albicrissus (Notharchus), 182.
albifrons (Bucco), 204.
albigularis (Brachygalba), 171, 173, 174.
albigularis (Galbula), 173.
albipennis (Chelidoptera), 207.
albirostris (Galbula), 164, 168, 169, 170.
albirostris (Indicator), 5.
albirostris (Prodotes), 5.
albiventer (Brachygalba), 174.
albiventris (Brachycex), 174.
albiventris (Galbula), 170, 174.
albiventris (Laimodon), 19.
albivertex (Cuculus), 226.
albivertex (Simotes), 226.
albivitta (Aulacorhamphus), 157.
albivitta (Pteroglossus), 157.
albivittatus (Aulacorhamphus), 153, 154, 157.
albocristata (Corythaix), 441.
albocristata (Musophaga), 440.
albocristatus (Turacus), 440.
albogularis (Brachycex), 173.
albogularis (Ramphastos), 125.
albonotatus (Coccystes), 224.
albopunctatus (Cuculus), 227.
albopunctulatus (Cuculus), 227.
albostriatus (Cuculus), 261.
Alcyonides, 175.
Alectorops, 395.

amaurocephalus (Cuculus), 378.
amazonica (Capito), 113.
amazonicus (Capito), 113.
amazonum (Urogalba), 162, 163.
ambiguus (Pteroglossus), 141.
ambiguus (Rhamphastos), 124, 128.
ambiguus (Ramphastos), 127.
ambulatoria (Crotophaga), 430.
americana (Piaya), 309.
americanus (Coccystes), 309.
americanus (Coccyzus), 308, 459.
americanus (Crotophaga), 428.
americanus (Cuculus), 308.
americanus (Cureus), 309.
americanus (Erythrophrys), 309.
americanus occidentalis (Coccyzus), 311.
amethystina (Lampromorpha), 289.
amethystinus (Chalcococcyx), 289.
Anadænus, 392.
anais (Gallirex), 446.
anchietæ (Buccanodon), 48.
anchietæ (Megalaima), 48.
anchietæ (Stactolæma), 48.
andamanensis (Centrococcyx), 366.
andamanensis (Centropus), 366.
Andigena, 123, 133.
ani (Crotophaga), 428, 429.
Ani des Palétuviers, 428.
Ani des Saranes, 430.
Ani, Greater, 428.
Ani, Lesser, 430.
Anno, 430.
Anno Guazu, 428.
Anomalous Hornbill, 330.
anselli (Centropus), 359.
apivorus (Indicator), 9.
approximans (Ramphastos), 126.
Aracari, 137.
Aracari à ceinture rouge, L', 138.
Aracari à double ceinture, L', 139.
Aracari Azara, L', 145.
Aracari Baillon, L', 136.
Aracari Koulik, L', 152.
Aracari Koulik du Brésil, L', 149.
Aracari Koulik du Pérou, L', 149.
aracari (Pteroglossus), 137, 138, 139.
aracari (Ramphastos), 138.
Aracari verd, L', 147.
archipelagicus (Indicator), 4, 5.
arfakianus (Cacomantis), 274.
Argicus, 179.
ariel (Rhamphastos), 122, 124, 131, 132.
armata (Galbula), 174.
armillaris (Bucco), 66, 67.
armillaris (Cyanops), 66.
armillaris (Megalæma), 66.
armillaris (Megalaima), 66, 67.
arnaudi (Trachyphonus), 104, 105.
aruensis (Centropus), 337.
aruensis (Nesocentor), 337.
asiatica (Cyanops), 62.
asiatica (Megalæma), 63.
asiatica (Megalaima), 63.
asiaticus (Bucco), 63.
asiaticus (Trogon), 62.
aspersa (Malacoptila), 196, 197.
assimilis (Cacomantis), 273, 274.
assimilis (Cuculus), 274.
ater (Cuculus), 203, 223.
ater (Oxylophus), 221.
ateralbus (Centropus), 334.
ateralbus (Nesocentor), 334.
atra (Monasa), 203.
atricollis (Ramphastos), 138.
atroflava (Barbatula), 43.
atroflava (Megalæma), 43.
atroflava (Megalaima), 43.
atrogularis (Aulacorhamphus), 154, 160.
atrogularis (Pteroglossus), 160.
audeberti (Cuculus), 224.
audeberti (Pachycoccyx), 224.
Aulacorhamphus, 123, 153.
Aulacorhynchus, 153.
aurantiicollis (Capito), 115.
aurantiicollis (Eubucco), 115.
aurantiirostris (Cuculus), 244, 247.
auratus (Bucco), 113.
auratus (Capito), 112, 113.
auratus (Chalcites), 285.
auratus (Chrysococcyx), 285.
auratus (Cuculus), 285.
aurea (Alcedo), 176.
aureus (Micropogon), 113.
auricollis (Micropogon), 112.
aurifrons (Bucco), 42, 65.
aurifrons (Capito), 112.
aurifrons (Micropogon), 112.
aurovirens (Bucco), 109.
aurovirens (Capito), 108.
aurovirens (Eubucco), 109.
aurovirens (Micropogon), 109.
australasiæ (Scythrops), 330.
Australian Channel-Bill, 330.
australis (Bucco), 85, 87, 94.
australis (Ceuthmochares), 403.

australis (Corvus), 203.
australis (Eudynamis), 317, 324.
australis (Megalæma), 95.
australis (Megalaima), 94.
australis (Xantholæma), 94.
australis (Zanclostomus), 403.
axillaris (Monasa), 204.
azaræ (Pteroglossus), 137, 138, 144, 145.
azaræ (Ramphastos), 145.

badius (Coccyzus), 393.
bahamensis (Saurothera), 371.
bailloni (Andigena), 134, 136.
bailloni (Pteroglossus), 136.
bailloni (Ramphastos), 136.
bairdi (Coccyzus), 309.
Barbacou à bec rouge, Le, 203.
Barbacou à croupion blanc, Le, 207.
Barbatula, 14, 38.
barbatula (Bucco), 39.
barbatula (Megalæma), 40.
barbatula (Megalaima), 40.
Barbet, Beautiful, 116.
Barbet, Black-throated, 31.
Barbet, Buff-faced, 89.
Barbet, Cayenne, 111.
Barbet, Collared, 180.
Barbet, Doubtful, 15.
Barbet, Greater Pied, 181.
Barbet, Grand, 52.
Barbet, Green, 83.
Barbet, Indian, 89.
Barbet, Lesser Pied, 185.
Barbet, Little, 89.
Barbet, Red-crown, 93.
Barbet, Spotted-bellied, 189.
Barbet, Wax-billed, 203.
Barbet, White-breasted, 193.
Barbet, White-faced, 204.
Barbet, Yellow-cheeked, 76.
Barbet, Yellow-throated, 89.
Barbican, 15, 39.
Barbican à ventre rose, 20.
Barbican des côtes de Barbarie, 15.
Barbican unibec, 18.
barbiculus (Bucco), 93, 95.
Barbion à dos rouge, 43.
Barbu à collier de Cayenne, 180.
Barbu à collier rouge, 89.
Barbu à front d'Or, 65.
Barbu à gorge bleue, 62.
Barbu à gorge jaune, 89.
Barbu à gorge noire, 31.
Barbu à gros bec de Cayenne, 181.
Barbu à plastron noir, 24.
Barbu à plastron noire, 31.
Barbu à plastron rouge, 89.
Barbu à poitrine noire de Cayenne 185.
Barbu à ventre tacheté de Cayenne, 188.
Barbu Barbichon, 93.
Barbu de Guyane, 111.
Barbu de l'isle de Luçon, 31.
Barbu de Mahé, 83.
Barbu de St. Domingue, 111.
Barbu des Maynas, 116.
Barbu des Philippines, 89.
Barbu du Cap de Bonne Espérance, 31.
Barbu du Sénégal, 89.
Barbu élégant, 116.
Barbu Kotorea, 56.
Barbu orangé de Pérou, 113.
Barbu oranvert, 108.
Barbu rose-gorge, 96.
Barbu Rubicon, 26.
Barbu tacheté de Cayenne, 111.
Barbu vert, 83.
barianus (Indicator), 7.
barrotii (Phœnicophaus), 404.
bartlettii (Cuculus), 256.
basalis (Lamprococcyx), 294, 298.
basalis (Chalcites), 294.
basalis (Chalcococcyx, 294.
basalis (Chrysococcyx), 294, 298.
basalis (Cuculus), 294.
Beau Tamatia, 116.
beauharnaisi (Pteroglossus), 137, 138, 148.
Beauharnasius, 137.
Beautiful Barbet, 116.
Bee Cuckoo, 212.
bengalensis (Centrococcyx), 352.
bengalensis (Centropus), 352.
bengalensis (Cuculus), 352.
bengalensis (Polophilus), 352.
bernsteini (Centropus), 338.
bernsteini (Nesocentor), 338.
bernsteini (Polophilus), 338.
bharovus (Cuculus), 256.
bicincta (Capito), 188.
bicincta (Chaunornis), 188.
bicincta (Tamatia), 188.
bicinctus (Bucco), 179, 180, 188.
bicinctus (Hypnelus), 188.
bicolor (Centropus) 365.
bicolor (Corydonix), 357.
bicolor (Pyrrhocentor), 365.
bidentatus (Bucco), 18.
bidentatus (Laimodon), 18.
bidentatus (Melanobucco), 18.
bidentatus (Pogonias), 18, 19.
bidentatus (Pogonorhynchus), 18, 19, 20.
bifrenatus (Pogonias), 30.
bifrenatus (Pogonorhynchus), 30.

bilineata (Barbatula), 44, 457.
bilineata (Megalæma), 44, 45.
bilineata (Megalaima), 44.
bitorquata (Tamatia), 188.
bitorquatus (Pteroglossus), 137, 138, 144.
blacica (Malacoptila), 196.
Blackbird, Razor-billed, 430.
Blackbird, Savanna, 430.
Black Indian Cuckoo, 316.
Black-throated Barbet, 31.
Blue-cheeked Curucui, 62.
Blue-headed Cuckoo, 324.
bocagii (Smilorhis), 36.
bocki (Hierococcyx), 234.
boehmi (Musophaga), 448.
boehmi (Trachyphonus), 104, 105.
bonapartii (Gymnobucco), 36.
bonapartii (Gymnocranus), 36.
bonapartii (Heliobucco), 36.
bonapartii (Megalaima), 36.
borealis (Cuculus), 247.
borneensis (Cacomantis), 268.
borneensis (Centropus), 344.
borneensis (Megalæma), 59.
borneensis (Melias), 389.
borneensis (Rhopodytes), 389.
bottæ (Saurothera), 419.
bourcieri (Capito), 118, 119.
bourcieri (Eubucco), 118.
bourcieri (Micropogon), 118.
Bout de Petun, 428, 429, 430.
Brachycex, 171.
Brachygalba, 161, 171.
brachyptera (Piaya), 377.
brachypterus (Coccyzus), 378.
brachypterus (Pyrrhococcyx), 378.
brasiliensis (Chelidoptera), 207, 208.
brasiliensis (Jacamaralcyon), 174.
brasiliensis nævia (Ispida), 190.
brazzæ (Coccystes), 225.
brevicarinatus (Rhamphastos), 124, 126.
brevipennis (Cuculus), 277.
bronzinus (Cacomantis), 275.
bronzinus (Cuculus), 275.
Brown and Spotted Indian Cuckoo, 316.
brucii (Laimodon), 23.
brucii (Pogonias), 22.
brunnea (Nonnula), 199, 201.
Bubutus, 392.
bubutus (Centropus), 343, 348.
Buccanodon, 38.
Bucco, 179.
Buccotrogon, 98.
Buff-faced Barbet, 89.
buffoni (Corythaix) 438.
buffoni (Opæthus), 438.
buffoni (Turacus), 438.
bupbagoides (Indicator), 6, 9.
burchelli (Centropus), 361.
burchelli (Corythaix), 446.
Burhynchus, 124.

cabanisi (Corythaix), 440.
Cacangelus, 226.
Cacomantis, 211, 265.
cærulea (Coua), 406.
cæruleicinctus (Aulacorhamphus), 154, 159.
cæruleigula (Bucco), 63.
cæruleigularis (Aulacorhamphus), 154, 159, 160.
cæruleocinctus (Aulacorhynchus), 159.
cæruleus (Bucco), 62.
cæruleus (Centropus), 407.
cæruleus (Coccyzus), 406.
cæruleus (Coua), 406.
cæruleus (Cuculus), 406.
cæruleus (Glaucococcyx), 407.
cæruleus (Polophilus), 406.
cæruleus (Sericosomus), 407.
cafer (Capito), 101.
cafer (Coccystes), 221, 459.
cafer (Cuculus), 221.
cafer (Cucupicus), 100.
cafer (Oxylophus), 222.
cafer (Picus), 101.
cafer (Trachyphonus), 100, 102, 458.
caixana (Coccycua), 379.
caixana (Coccyzus), 378.
caixana (Macropus), 377, 378.
calcaratus (Bucco), 203.
Caliechthrus, 210, 225.
californiana (Saurothera), 419.
californianus (Geococcyx), 419.
callirhynchus (Phœnicophaus), 396.
callorhinchus (Ramphastos), 125.
Calorhamphus, 14, 49.
calorhynchus (Aulacorhamphus), 153, 155.
calorhynchus (Melias), 396.
calorhynchus (Phœnicophaus), 396.
calorhynchus (Rhamphococcyx), 396, 397.
calorhynchus (Zanclostomus), 396.
calva (Megalaima), 34.
calvus (Bucco), 34.
calvus (Gymnobucco), 34.
calvus (Gymnocranus), 34.
caniceps (Bucco), 77, 78, 80, 83.
caniceps (Chotorhea), 78.
caniceps (Cyanops), 78.
caniceps (Megalæma), 78.
caniceps (Megalaima), 77, 78, 80.
caniceps (Phœnicophaus), 393.
canorinus (Cuculus), 253.
canoroides (Cuculus), 253.
canoroides (Nicoclarius), 253.
canorus (Cuculus), 245, 256, 459.
canorus borealis (Cuculus), 247.
canorus telephonus (Cuculus), 247.

cantor (Cuculus), 253.
capensis (Bucco), 180.
capensis (Cuculus), 244, 247, 258.
capistratus (Capito), 118.
capistratus (Megalaima), 118.
Capito, 15, 107.
carinatus (Ramphastos), 125, 126.
carinatus (Rhamphastos), 124, 125, 126, 127.
caroli (Coccystes), 221.
carolinensis (Coccyzus), 309.
carolinensis (Cuculus), 308.
carolinensis (Erythrophrys), 309.
Carpococcyx, 414.
casasii (Crotophaga), 432.
castanea (Hapaloptila), 202.
castanea (Malacoptila), 202.
castaneiventris (Cacomantis), 274.
castaneiventris (Cuculus), 274.
castaneorhynchus (Aulacorhamphus), 158.
castaneorhynchus (Pteroglossus), 158.
castanopterus (Centropus), 343.
castanotis (Pteroglossus), 138, 140.
castanotis australis (Pteroglossus), 141.
Cauax, 174.
Caucalias, 163.
Cauecias, 175.
cayana (Piaya), 373, 460.
cayanensis (Coccyzus), 373.
cayannensis (Bucco), 111.
cayannensis (Capito), 111, 113.
cayannensis (Micropogon), 111.
cayanus (Coccyzus), 373.
cayanus (Cuculus), 373, 377, 378.
cayanus (Pyrrhococcyx), 373.
Cayenne Barbet, 111.
celebensis (Centropus), 365.
celebensis (Pyrrhocentor), 365.
Centrococcyx, 331.
Centropus, 331.
ceramensis (Cuculus), 323.
Cercococcyx, 210, 265.
Ceuthmochares, 368, 401.
ceycoides (Galbula), 174.
ceylonensis (Eudynamis), 317.
ceylonensis (Phœnicophaus), 395.
ceylonensis (Rhamphococcyx), 396.
Chacuru, El, 191.
chacuru (Bucco), 180, 191.
chacuru (Capito), 191.
chacuru (Nyctastes), 191.
chacuru (Nystalus), 191.
chacuru (Tamatia), 191.
Chalcites, 280.
chalcites (Chrysococcyx), 294, 295, 297, 298.
chalcites (Cuculus), 295, 297, 298.
chalcocephala (Galbula), 169.
Chalcococcyx, 211, 288.
chalcopepla (Lampromorpha), 285.
chalcopeplus (Cuculus), 285.
chalcoptera (Galbula), 172.
chalcothorax (Caucalias), 171
chalcothorax (Galbula), 164, 171.
chalybeus (Centropus), 337.
chalybeus (Cuculus), 260.
chalybeus (Nesocentor), 338.
Channel-Bill, Australian, 330.
Chaunornis, 179.
Chelidoptera, 179, 202.
chinensis (Eudynamis), 317.
chiriri (Coccyzus), 424.
Chirri, 424.
Chizærhis, 450.
chlorochlamys (Gallirex), 447.
chlorocephalus (Phœnicophaus), 393.
chlorophæa (Rhinortha), 393.
chlorophæus (Cuculus), 393.
chlorophæus (Idiococcyx), 393.
chlorophæus (Phœnicophaes), 393.
chlororhynchus (Centrococcyx), 342.
chlororhynchus (Centropus), 342.
chlororhynchus (Ramphastos), 133.
Chochi, 424.
chochi (Coccyzus), 424.
chochi (Diplopterus), 424.
Chotorhea, 15, 55.
chrysites (Cuculus), 286.
chrysites (Lamprococcyx), 286.
chrysochlorus (Cuculus), 286.
chrysochlorus (Lamprococcyx), 286.
Chrysococcyx, 211, 280.
chrysocoma (Barbatula), 42, 43.
chrysocoma (Bucco), 42.
chrysocoma (Megalæma), 42.
chrysocoma (Megalaima), 42, 43.
chrysogaster (Coccyzus), 381.
chrysogaster (Piaya), 380.
chrysopogon (Bucco), 57, 59.
chrysopogon (Chotorhea), 57.
chrysopogon (Cyanops), 58.
chrysopogon (Megalæma), 57.
chrysopogon (Megalaima), 57.
chrysopsis (Chotorhea), 59.
chrysopsis (Megalæma), 59.
chrysopsis (Megalaima), 59.
chrysoptera (Bucco), 40.
chrysopyga (Barbatula), 45.
cineracea (Nonnula), 199, 200.
cineraceus (Cuculus), 266.
cinerascens (Cuculus), 266.

cinerea (Piaya), 313.
cinereus (Bucco), 203.
cinereus (Cacomantis), 261.
cinereus (Coccyzus), 307, 312.
cinereus (Cuculus), 247, 261.
cinerosus (Cuculus), 309.
Ciniciento, 307.
cinnamomeiventris (Piaya), 372.
cinnamomeus (Cuculus), 374.
circe (Piaya), 373.
circe (Pyrrhococcyx), 374.
citreolæmus (Rhamphastos), 124, 131.
claasi (Chrysococcyx), 283.
Cladurus, 38.
clamosus (Cuculus), 256, 260.
clasii (Chrysococcyx), 283.
Coccycua, 373.
Coccygius, 302.
Coccygon, 302.
Coccygus, 302.
Coccystes, 210, 211.
Coccysus, 302.
Coccyzus, 211, 302.
Cochlothraustes, 405.
Collared Cuckow, 215.
collaris (Bucco), 179, 180.
collaris (Capito), 180.
collaris (Cuculus), 215.
collaris (Tamatia), 180.
Colophimus, 450.
color (Coccyzus), 217.
columbinus (Coccyzus), 374.
columbinus (Pyrrhococcyx), 374.
concolor (Chizærhis), 453.
concolor (Coliphimus), 451, 453, 455.
concolor (Corythaix), 453.
concolor (Corythaixoides), 453.
concolor (Musophaga), 454.
concolor (Schizorhis), 454.
concolor (Turacus), 454.
concretus (Cuculus), 241.
concretus (Nicoclarius), 242.
conirostris (Indicator), 10.
conirostris (Melignothes), 10.
consobrinus (Lignobucco), 47.
coquerelli (Coua), 412.
coquerelli (Sericosomus), 412.
corallirhynchus (Melias), 377.
corallirhynchus (Phœnicophaus), 378.
Coromandel Crested Cuckoo, 217.
coromandelicus (Cuculus), 215.
coromandus (Coccystes), 214, 215.
coromandus (Cuculus), 214.
coromandus (Oxylophus), 215.
corvina (Chotorea), 58.
corvina (Chotorhea), 56.
corvina (Megalæma), 56.
corvina (Megalaima), 56.
corvinus (Bucco), 56.
Corydonyx, 331.
Corythæola, 449.
Corythaix, 436.
corythaix (Corythaix), 440.
corythaix (Spelectos), 440.
corythaix (Turacus), 440.
Corythaixoides, 450.
Corythrix, 436.
costaricensis (Malacoptila), 196.
Coua, 368, 405, 409.
Coua casseur d'escargots, 413.
Coua Famac-acora, 413.
Coua verdatre, 412.
Coucal, Chestnut, 343.
Coucal de Tintingue, 408.
Coucal géant, 340.
Coucal houhou, 360.
Coucal noiru, 357.
Coucal rufin, 352.
Coucal violet, 337.
Coucou, 247, 304.
Coucou à collier blanc, 215.
Coucou à gros bec, 316.
Coucou à tête grise de Java, 268.
Coucou à ventre rayé de l'Isle de Panay, 232.
Coucou bleu de Madagascar, 406.
Coucou brun et jaune à ventre rayé, 232.
Coucou brun varié de noire, 314.
Coucou criard, 260.
Coucou d'Andalousie, 212.
Coucou de Klaas, 283.
Coucou de la Caroline, 308.
Coucou de S. Domingue, 308.
Coucou de Madagascar, 350.
Coucou des Paletuviers de Cayenne, 304.
Coucou des Philippines, 349.
Coucou du Cap de Bonne Espérance, 247.
Coucou du Sénégal, 360.
Coucou Edolis, 217, 221, 223.
Coucou huppé de Coromandel, 214.
Coucou huppé de la côte de Coromandel, 217.
Coucou huppé du Brésil, 434.
Coucou huppé du Coromandel, 214.
Coucou huppé à collier, 215.
Coucou huppé de Madagascar, 409.
Coucou huppé noir et blanc, 212.
Coucou noir de Bengale, 316.
Coucou noir de Cayenne, 203.
Coucou noir de Cayenne, Le petit, 207.
Coucou noir des Indes, 322.
Coucou solitaire, 258.
Coucou tacheron, 316.
Coucou tacheté de Bengale, 316.
Coucou tacheté de Cayenne, 423.
Coucou tacheté de la Chine, 316.
Coucou tacheté de l'Isle de Panay, 321
Coucou tacheté de Malabar, 316.
Coucou tacheté de Mindanao, 321.

Coucou tacheté des Indes, 322.
Coucou tacheté des Indes Orientales, 325.
Coucou verdatre de Madagascar, 412.
Coucou vert d'Antigua, 349.
Coucou vert doré et blanc, 285.
Coucou vert du Cap de Bonne Espérance, 285.
Coucou vert hupé de Guinée, 437.
Coucou vulgaire d'Afrique, 244.
Coucou vulgaire d'Europe, 247.
Coulion vert, 407.
crassirostris (Chalcococcyx), 301.
crassirostris (Cuculus), 238, 301, 316.
crassirostris (Hierococcyx), 238.
crassirostris (Lamprococcyx), 301.
crawfurdii (Phœnicophaus), 391.
Crested Black Cuckoo, 223.
cristata (Coua), 409, 410.
cristata (Corythæola), 449.
cristata (Musophaga), 449.
cristata (Guira), 434.
cristatus (Coccyzus), 409.
cristatus (Coua), 409.
cristatus (Cuculus), 391, 409.
cristatus (Ptiloleptus), 434.
cristatus (Schizorhis), 449.
cristatus (Sericosomus), 409.
cristatus (Serisomus), 409.
cristatus (Turacus), 449.
croceus (Pteroglossus), 136.
Crotophaga, 427.
Crown bird from Mexico, 437.
Cuckoo, Bee, 212.
Cuckoo, Black Indian, 316.
Cuckoo, Brown and Spotted Indian, 316.
Cuckoo, Coromandel Crested, 217.
Cuckoo, Great Spotted, 212.
Cuckoo, Long-heeled, 350.
Cuckoo, Shining, 295.
Cuckoo, Society, 314.
Cuckow, Abyssinian, 212.
Cuckow, Black-breasted, 223.
Cuckow, Blue, 406.
Cuckow, Blue-headed, 324.
Cuckow, Collared, 215.
Cuckow, Crested Black, 223.
Cuckow, Egyptian, 360.
Cuckow, Fan-tailed, 266.
Cuckow, Flinder's, 324.
Cuckow, Gilded, 285.
Cuckow, Great Madagascar, 412.
Cuckow, Madagascar, 409, 412.
Cuckow, Pisan, 212.
Cuckow, Tipped, 279.
Cuckow, White-rumped, 207.
cucullatus (Andigena), 134.
cucullatus (Pteroglossus), 134.
cuculoides (Centropus), 381.
cuculoides (Taccocua), 382.
Cuculus, 201, 240.
Cucupicus, 99.
culik (Pteroglossus), 152.
culminatus (Ramphastos), 124, 130.
Cultrides, 415.
cumingii (Dasylophus), 404.
cumingii (Lepidogrammus), 404, 405.
cumingii (Phœnicophaus), 404.
cuneicauda (Eudynamis), 314.
cupreus (Chalcites), 280, 286.
cupreus (Chrysococcyx), 281, 285, 459.
cupreus (Cuculus), 280, 285.
cupreus (Lamprococcyx), 286.
Curassow, Blue, 449.
Cureus, 302.
cursor (Coua), 411.
cursor (Sericosomus), 412.
Curucui, Blue-cheeked, 62.
Curucui, Spotted, 291.
curvirostris (Cuculus), 397.
curvirostris (Phœnicophaus), 397, 399.
curvirostris (Rhamphococcyx), 397.
curvirostris (Rhinococcyx), 397, 398.
cuvieri (Ramphastos), 130.
cuvieri (Rhamphastos), 124, 130.
cyanescens (Galbula), 167.
cyaneicollis (Galbula), 164, 169.
cyaneus (Crax), 449.
cyanicollis (Bucco), 62.
cyanocephala (Eudynamis), 324, 326.
cyanocephala (Galbula), 169.
cyanocephalus (Bucco), 94.
cyanocephalus (Cuculus), 324.
cyanocollis (Capito), 62.
cyanolæmus (Aulacorhamphus), 154, 160.
cyanopogon (Galbula), 169.
Cyanops, 15, 61.
cyanops (Bucco), 62.
cyanotis (Bucco), 87.
cyanotis (Cyanops), 87.
cyanotis (Megalæma), 87.
cyanotis (Mesobucco), 87.
cyanotis (Xantholæma), 87.
Cyphos, 179.
cyphos (Capito), 186.

darnaudi (Micropogon), 105.
darnaudi (Trachyphonus), 105.
Dasylophus, 368, 403.
davisoni (Cyanops), 65.
davisoni (Megalæma), 65.
davisoni (Megalaima), 65.

decorus (Cuculus), 405.
delalandei (Coccyzus), 413.
delalandei (Cochlothraustes), 413.
delalandei (Coua), 413.
delalandei (Cuculus), 413.
delalandei (Sericosomus), 413.
derbianus (Aulacorhamphus), 154, 155, 156.
derbianus (Aulacorhynchus), 155.
derbianus (Pteroglossus), 155.
diadematum (Tricholæma), 33.
diadematus (Indicator), 9.
diadematus (Læmodon), 33.
diadematus (Pogonias), 33.
diadematus (Pogonorhynchus), 33.
diardi (Melias), 390.
diardi (Phœnicophaus), 390.
diardi (Rhopodytes), 390.
diardi (Zanclostomus), 390.
dicolorus (Ramphastos), 133.
dicolorus (Rhamphastos), 124, 133.
dicruroides (Cacangelus), 227.
dicruroides (Cuculus), 227.
dicruroides (Pseudornis), 227.
dicruroides (Surniculus), 227.
didymus (Pteroglossus), 138, 147.
dimidiatus (Aulacorhamphus), 154, 160.
dimidiatus (Centrococcyx), 353.
dimidiatus (Centropus), 352.
Diplopterus, 423.
dominica (Piaya), 309.
dominicæ (Coccyzus), 306.
dominicensis (Coccyzus), 369.
dominicensis (Saurothera), 369.
dominicus (Coccyzus), 304, 309, 311.
dominicus (Cuculus), 308.
Doubtful Barbet, 15.
Dromococcyx, 425.
Dryococcyx, 368.
dubius (Bucco), 15.
dubius (Laimodon), 16.
dubius (Pogonias), 16.
dubius (Pogonorhamphus), 16.
dubius (Pogonorhynchus), 15, 19.
duchaillui (Barbatula), 38.
duchaillui (Buccanodon), 38.
duchaillui (Cladurus), 39.
duchaillui (Megalæma), 39.
duchaillui (Megalaima), 39.
duchaillui (Pogonias), 38.
duchaillui (Pogonorhynchus), 39.
duchaillui (Xylobucco), 39.
dumetorum (Cacomantis), 272.
dumetorum (Cuculus), 272.
duvauceli (Mesobucco), 85.
duvaucelii (Bubutus), 393.
duvaucelii (Bucco), 85.
duvaucelii (Megalæma), 86.
duvaucelii (Megalaima), 86, 87.
duvaucelii (Xantholæma), 86.
Dynamene, 315.
dysoni (Bucco), 180, 182.
dysoni (Notharchus), 182.
dysonomus (Cacomantis), 269.

edolius (Cuculus), 217, 223.
edolius (Oxylophus), 217, 223.
ejulans (Cuculus), 234.
elegans (Bucco), 116.
elegans (Eubucco), 116.
elongatus (Melias), 389.
elongatus (Phœnicophaes), 389.
elongatus (Phœnicophaus), 389.
elongatus (Rhopodytes), 389.
elongatus (Zanclostomus), 389.
emini (Indicator), 12.
eogaster (Pogonorhynchus), 20.
epomidis (Centropus), 357.
Erythrobucco, 13, 16.
erythrocephala (Capito), 117.
erythrocephalus (Capito), 111.
erythrocephalus (Eubucco), 111.
erythrocephalus (Trachyphonus), 102, 103.
erythrognathus (Aulacorhamphus), 153, 154.
erythrognathus (Phœnicophæus), 398.
erythrognathus (Rhamphococcyx), 399.
erythrognathus (Rhopodytes), 399.
erythrognathus (Urococcyx), 398.
erythrolopha (Corythaix), 444.
erythrolopha (Musophaga), 444.
erythrolophus (Opæthus), 444.
erythrolophus (Spelectos), 444.
erythrolophus (Turacus), 444.
erythromelas (Pogonia), 16.
erythronota (Barbatula), 43.
erythronotus (Bucco), 43, 111.
Erythrophrys, 302.
erythrophthalmus (Coccyzus), 311, 460.
erythrophthalmus (Cuculus), 311.
erythropygia (Geococcyx), 422.
erythropygia (Piaya), 422.
erythropygius (Morococcyx), 422.
erythropygius (Pyrrhococcyx), 422.
erythropygius (Pteroglossus), 138, 143, 144.

erythropygos (Micropogon), 103.
erythropygos (Lypornix), 103.
erythropygos (Tamatia), 103.
erythropygus (Coccyzus), 422.
erythropygus (Morococcyx), 422.
erythrorhyncha (Piaya), 380.
erythrorhynchus (Ramphastos), 128.
erythrorhynchus (Rhamphastos), 124, 128, 129.
erythrosoma (Ramphastos), 132.
Eubucco, 107.
Eudynamis, 211, 315.
Eudynamys, 315.
eugnathus (Ramphastos), 127,
euleri (Coccyzus), 309.
eurycercus (Centrococcyx), 344.
eurycercus (Centropus), 344.
excellens (Diplopterus), 424.
exilis (Indicator), 11.
exilis (Melignostes), 11.
exilis (Melignothes), 11.
extoni (Barbatula), 43, 457.

faber (Cyanops), 75.
faber (Megalæma), 75.
faber (Megalaima), 75.
facialis (Eudynamis), 327.
faiostrictus (Bucco), 76.
Fan-tailed Cuckow, 266.
fasciatus (Coliphimus), 452.
fasciatus (Cuculus), 242, 314, 344.
fasciolata (Rhinortha), 393.
fasciolatus (Cacomantis), 263.
fasciolatus (Cuculus), 263.
feliciæ (Chizærhis), 454.
ferruginea (Piaya), 303.
ferrugineus (Coccyzus), 303.
ferrugineus (Nesococcyx), 303.
fischeri (Barbatula), 46.
fischeri (Centropus), 359.
fischeri (Corythaix), 443.
fischeri (Turacus), 443.
flabelliformis (Cacomantis), 266.
flammulatus (Nyctastes), 190.
flavicollis (Capito), 89, 112.
flavicollis (Indicator), 6.
flavicollis (Micropogon), 112.
flavifrons (Bucco), 65.
flavifrons (Cyanops), 65.
flavifrons (Megalæma), 65.
flavifrons (Megalaima), 65.
flavigula (Bucco), 89.
flavigula (Megalaima), 89.
flavigula (Xantholæma), 89.
flavigularis (Chrysococcyx), 282.
flavimentum (Barbatula), 46.
flavipunctata (Tricholæma), 28.
flavirostris (Ceuthmochares), 401.
flavirostris (Coccyzus), 309.
flavirostris (Galbula), 168.
flavirostris (Monacha), 203, 204.
flavirostris (Monasa), 204.
flavirostris (Phœnicophaes), 401.
flavirostris (Pteroglossus), 138, 144, 145.
flavirostris (Zanclostomus), 401, 402.
flaviscapulatus (Indicator), 5.
flavisquamata (Barbatula), 47.
flaviventris (Cuculus), 232, 237.
flaviventris (Hierococcyx), 237.
flavostictus (Bucco), 76.
flavostriata (Megalaima), 76.
flavus (Cacomantis), 268.
flavus (Cuculus), 266, 268, 277, 279.
flavus (Surniculus), 268, 277.
Flinder's Cuckow, 324.
flindersi (Eudynamis), 324.
flindersii (Cuculus), 324.
formosa (Barbatula), 38.
formosus (Pteroglossus), 137, 139.
forsterorum (Ramphastos), 130.
francisci (Centropus), 358.
franklini (Bucco), 69.
franklini (Cyanops), 69.
franklini (Megalæma), 69.
franklini (Megalaima), 69.
frantzii (Pteroglossus), 138, 142.
frantzii (Tetragonops), 120.
frontalis (Bucco), 85.
frontalis (Malacoptila), 201.
frontalis (Nonnula), 199, 201.
frontalis (Pogonorhynchus), 34.
frontatum (Tricholæma), 34.
frontatus (Pogonorhynchus), 34.
fucatus (Cuculus), 253.
fugax (Cuculus), 236.
fugax (Hierococcyx), 236.
fuliginosa (Barbatula), 36.
fuliginosa(Gymnobucco), 36.
fuliginosus (Bucco), 51.
fuliginosus (Calorhamphus), 50, 51.
fuliginosus (Gymnocranus), 36.
fuliginosus (Micropogon), 51.
fulvigularis (Malacoptila), 193, 198.
fulviventris (Brachygalba), 171, 172.
fulvogularis (Malacoptila), 198.
fusca (Malacoptila), 193.
fusca (Monasa), 194, 195.
fusca (Tamatia), 193.
fuscescens (Bucco), 26.
fuscicapilla (Galbula), 167.

fuscicapillus (Bucco), 80.
fuscus (Bucco), 193, 195.
fuscus (Capito), 195.

gabonensis (Cuculus), 259.
Galbalcyrhynchus, 161, 175.
Galbula, 161, 163.
galbula (Alcedo), 164.
galeritus (Cuculus), 424.
galeritus (Diplopterus), 424.
Gallirex, 446.
Geococcyx, 419.
geoffroyi (Coccyzus), 416.
geoffroyi (Coua), 416.
geoffroyi (Cultrides), 416.
geoffroyi (Neomorphus), 416.
Geotacco, 425.
gigantea (Chizærhis), 449.
gigantea (Musophaga), 449.
gigantea (Saurothera), 370.
giganteus (Bucco), 183.
giganteus (Capito), 183.
giganteus (Corydonix), 340.
giganteus (Gallirex), 449.
giganteus (Phimus), 449.
giganteus (Turacus), 449.
gigas (Centropus), 340.
gigas (Corythaix), 449.
gigas (Coua), 412, 413.
gigas (Polophilus), 340.
gigas (Sericosomus), 413.
gigas (Tamatia), 182.
Gilded Cuckow, 285.
glaber (Rhamphastos), 147.
glandarius (Coccystes), 212.
glandarius (Coccyzus), 212, 458.
glandarius (Cuculus), 212.
glandarius (Oxylophus), 213.
Glaucococcyx, 405.
glaucogularis (Capito), 117.
glaucogularis (Micropogon), 117.
goeringi (Brachygalba), 171, 172.
goffini (Capito), 106.
goffini (Trachyphonus), 106.
goliath (Centropus), 335.
goliath (Nesocentor), 335.
gouldi (Selenidera), 148, 149, 150.
gouldii (Pteroglossus), 150.
gracilis (Coccyzusa), 379.
gracilis (Coccyzus), 379.
gracilis (Cuculus), 212.
gracilis (Piaya), 379.
Grammarhynchus, 137.
granadensis (Capito), 115.
Grand Barbet, 52.
Grand Barbu, 52, 53.
Grand Barbu de la Chine, 52.
Grand Bout-de-Petun, 428.
Grand Coucou de Madagascar, 412.
Grand Indicateur, 6, 7.
grandior (Monacha), 203, 205.
grandior (Monasa), 205.
grandis (Alcedo), 176.
grandis (Bucco), 52, 53.
grandis (Capito), 52.
grandis (Galbula), 176.
grandis (Jacamerops), 176, 177.
grandis (Lamprotila), 176.
grandis (Megalaima), 53.
Great Spotted Cuckoo, 212.
Greater Ani, 428.
Green Barbet, 83.
grilli (Centropus), 357.
Grosbeak, Three-toed, 22.
guianensis (Coccyzus), 374.
guianensis (Pyrrhococcyx), 374.
Guifso Balito, 22.
Guira, 433.
guira (Coccyzus), 434.
guira (Cuculus), 434.
guira (Diplopterus), 434.
guira (Guira), 433.
guira (Octopteryx), 433.
guira (Ptiloleptus), 433.
gularis (Bucco), 94.
gularis (Capito), 187.
gularis (Cuculus), 244.
gularis (Tamatia), 187.
gutturalis (Bucco), 85.
Gymnobucco, 14, 34, 36.
Gymnocranus, 34.
Gymnopus, 265.
Gymnoschizorhis, 455.

habessinicus (Pogonorhynchus), 23.
hæmacephala (Megalaima), 90.
hæmacephala (Xantholæma), 90.
hæmacephalus (Bucco), 89.
hæmatocephala (Xantholæma), 89.
hæmatops (Pogonias), 22.
hæmatopygius (Aulacorhamphus), 154, 158.
hæmatopygus (Pteroglossus), 158.
Haliouts, 411.
Hapaloptila, 179, 202.
Harefets, 411.
harringtoni(Dryococcyx), 400.
harringtoni (Phœnicophaes), 400.
hartlaubi (Capito), 115, 118, 119.
hartlaubi (Corythaix), 445.
hartlaubi (Coua), 412.
hartlaubi (Eubucco), 118.
hartlaubi (Turacus), 445.
havanensis (Saurothera), 370.
hayi (Bucco), 50.
hayi (Calorhamphus), 50.
hayi (Megalorhynchus), 50.
hayi (Psilopus), 50.
Hehoc, 412.
Heliobucco, 36.
helviventris (Coccyzus), 304.
henrici (Cyanops), 67.
henricii (Bucco), 67.
henricii (Megalæma), 67.
henricii (Megalaima), 67.
hepaticus (Cuculus), 247.
Hetærodes, 11.

Heteroscenes, 240.
heuglini (Cuculus), 258.
Hierococcyx, 210, 231.
himalayanus (Cuculus), 252, 263.
himalayensis (Cuculus), 255.
hirsutum (Tricholæma), 28.
hirsutus (Laimodon), 28.
hirsutus (Pogonias), 28.
hirsutus (Pogonorhynchus), 28.
hodgsoni (Chalcites), 292.
hodgsoni (Chotorhea), 80.
hodgsoni (Chrysococcyx), 291.
hodgsoni (Cuculus), 292.
hodgsoni (Cyanops), 81.
hodgsoni (Megalæma), 80.
hodgsoni (Megalaima), 80.
honorata (Eudynamis), 316, 460.
honoratus (Cuculus), 316.
Hornbill, Anomalous, 330.
Hornbill, Psittaceous, 330.
horsfieldi (Cuculus), 253.
humboldti (Pteroglossus), 138, 146.
humei (Megalæma), 72.
Hyetomantis, 372.
Hyetornis, 367, 372.
hyperrhynchus (Bucco), 179, 180, 183.
hyperrhynchus (Notharchus), 183.
hyperrhynchus (Tamatia), 183.
hyperythrus (Cuculus), 237, 242.
hyperythrus (Hierococcyx), 237.
hypnalea (Chaunornis), 189.
Hypnalus, 179.
hypoglauca (Andigena), 134.
hypoglaucus (Andigena), 133, 134, 135.
hypoglaucus (Pteroglossus), 134.
hypopinarius (Coccystes), 220, 459.

Ichthierax, 450.
Idiococcyx, 392.
igniceps (Bucco), 69.
igniceps (Corythaix), 444.
inca (Rhamphastos), 124, 129.
incognita (Cyanops), 68.
incognita (Megalæma), 68.
incognita (Megalaima), 68.
Indian Barbet, 89.
indica (Megalaima), 89.
indica (Xantholæma), 89.
Indicator, 2.
indicator (Cuculus), 5.
indicator (Indicator), 5, 458.
indicus (Bucco), 89.
indicus (Cuculus), 253, 316.
indicus (Eudynamis), 317.
infaustus (Cacomantis), 273.
infaustus (Cuculus), 273.
infuscata (Taccocua), 382.
infuscatus (Cacomantis), 276.
infuscatus (Cuculus), 276.
infuscatus (Zanclostomus), 382.
inornata (Brachygalba), 172.
inornata (Galbula), 171, 172.
inornata (Jacamaralcyon), 172.
inornata (Malacoptila), 193, 194, 196, 197.
inornata (Megalæma), 78.
inornata (Monasa), 197.
inornatus (Cacomantis), 261.
inornatus (Cuculus), 261.
inscriptus (Pteroglossus), 137, 138, 146.
insertus (Cacomantis), 267.
insertus (Cuculus), 266.
insignis (Hetærodes), 12.
insignis (Indicator), 12.
insignis (Prodotiscus), 12.
insperatus (Cacomantis), 273.
insperatus (Cuculus), 273.
intermedia (Xantholæma), 97.
intermedius (Centrococcyx), 345.
intermedius (Centropus), 345.
intermedius (Ceuthmochares), 402.
intermedius (Chalcites), 281.
intermedius (Chrysococcyx), 281.
intermedius (Cuculus), 252, 281, 459.
irroratus (Melanobucco), 25.
irroratus (Pogonorhynchus), 25.
isidori (Bubutus), 393.
isidori (Jacamerops), 177.
isidori (Lamprotila), 177.

jacamaciri (Galbula), 176.
Jacamaciri of Marcgrave, The, 164.
Jacamar à bec jaune, 168.
Jacamar à gorge rousse, Le, 164.
Jacamar à longue queue, Le, 162.
Jacamar à queue rousse, Le, 166.
Jacamar à ventre blanc, Le, 170, 174.
Jacamar, Great, 176.
Jacamar, Green, 164.
Jacamar jeune âge, Le, 169.
Jacamar, Le, 164.
Jacamar, Paradise, 162.
Jacamar, Petit, 168.
Jacamar proprement dit, Le, 164.
Jacamar, Rufous-tailed, 166.
Jacamar, White-bellied, 168.
Jacamaralcion, Le, 174.
Jacamaralcyon, 161, 174.

Jacamaralcyonides, 175.
Jacamarici, 176.
Jacamerops, 161, 176.
Jacammaciri, Le, 176.
Jacobin huppé de Coromandel, 217.
jacobinus (Coccystes), 217, 220, 458.
jacobinus (Cuculus), 217.
jacobinus (Oxylophus), 218.
jamaicensis (Coccyzus), 372.
jamaicensis (Saurothera), 370.
javanensis (Centrococcyx), 355.
javanensis (Centropus), 355.
javanica (Centropus), 343.
javanicus (Cuculus), 354.
javanicus (Centropus), 355.
javanicus (Melias), 380.
javanicus (Phœnicophaes), 380.
javanicus (Zanclostomus), 380.
javensis (Bucco), 56.
javensis (Chotorhea), 56.
javensis (Megalæma), 57.
javensis (Megalaima), 56.
jerdoni (Phœnicophaus), 385.
julieni (Coccystes), 309.

kelungensis (Cuculus), 253.
kilimensis (Smilorhis), 37.
Kingfisher, Swallow-tailed, 162.
klaasi (Chrysococcyx), 283.
klaasi (Cuculus), 283.
klaasi (Lamprococcyx), 283.
klasii (Chalcites), 283.
kotorea (Bucco), 56.
Kotterea, Le, 77.

lachrymosa (Tricholæma), 31.
lachrymosum (Tricholæma), 31.
lachrymosus (Pogonorhynchus), 31.
lævirostra (Crotophaga), 430.
lævirostris (Laimodon), 18.
lævirostris (Pogonias), 18.
lafresnayanus (Centropus), 351.
lagrandieri (Cyanops), 75.
lagrandieri (Megalæma), 75.
lagrandieri (Megalaima), 75.
Laimodon, 15.
lalandii (Coua), 413.
laminirostris (Andigena), 134, 135.
Lamprococcyx, 280.
Lampromorpha, 280.
Lamprotila, 176.
lanceolata (Bucco), 199.
lanceolata (Micromonacha), 199.
lanceolatus (Capito), 199.
lanceolatus (Cuculus), 268.
lanceolatus (Nystalus), 199.
langsdorffi (Pteroglossus), 150.
langsdorffi (Selenidera), 149, 150.
lansbergi (Coccyzus), 303.
lathami (Bucco), 50, 89.
lathami (Calorhamphus), 50.
lathami (Capito), 89.
lathami (Centropus), 352.
lathami (Corydonix), 352.
lathami (Cuculus), 236.
lathami (Polophilus), 352.
lathami (Megalaima), 89.
lathami (Megalorhynchus), 50.
leopoldi (Gymnoschizorhis), 456.
leopoldi (Schizorhis), 456.
lepidocephalus (Pteroglossus), 148.
Lepidogrammus, 368, 404.
lepidus (Centrococcyx), 352, 354.
lepidus (Centropus), 352, 354.
leptodetus (Cuculus), 244, 256.
Leptostoma, 419.
leptura (Galbula), 166.
leschenaulti (Acentetus), 382.
leschenaulti (Taccocua), 381.
leschenaulti (Zanclostomus), 382.
lessoni (Diplopterus), 424.
leucocephalus (Laimodon), 21.
leucocephalus (Melanobucco), 21.
leucocephalus (Pogonias), 21.
leucocephalus (Pogonorhynchus), 21.
leucocrissus (Bucco), 182.
leucogaster (Caucalius), 170.
leucogaster (Centropus), 358.
leucogaster (Chizærhis), 452.
leucogaster (Corydonix), 358.
leucogaster (Melanobucco), 22.
leucogaster (Musophaga), 452.
leucogaster (Phœnicophaus), 395.
leucogaster (Pogonorhynchus), 22.
leucogaster (Polophilus), 358.
leucogaster (Schizorhis), 452.
leucogaster (Turacus), 453.
leucogastra (Galbula), 163, 164, 170, 171.
leucolæma (Barbatula), 45, 457.
leucolaima (Barbatula), 45.
leucolaima (Megalaima), 45.
leucolopha (Musophaga), 444.
leucolophus (Calliechthrus), 225, 226.
leucolophus (Corythaix), 444.

leucolophus (Cuculus), 225.
leucolophus (Eudynamis), 226.
leucolophus (Hierococcyx), 226.
leucolophus (Simotes), 226.
leucolophus (Turacus), 444.
leucomelan (Tricholæma), 31, 457.
leucomelas (Bucco), 31.
leucomelas (Coccyzus), 217.
leucomelas (Laimodon), 24, 32.
leucomelas (Pogonias), 32.
leucomelas (Pogonorhynchus), 32.
leuconotus (Bucco), 18.
leucops (Bucco), 204.
leucops (Capito), 204.
leucops (Lypornix), 204.
leucops (Monasa), 204.
leucops (Tamatia), 204.
leucorhynchus (Bucco), 80.
leucotis (Alcyonides), 175.
leucotis (Barbatula), 37.
leucotis (Bucco), 191.
leucotis (Cauecias), 175.
leucotis (Corythaix), 436.
leucotis (Galbalcyrhynchus), 175.
leucotis (Indicator), 5.
leucotis (Jacamaralcyonides), 175.
leucotis (Megalæma), 37.
leucotis (Megalaima), 37.
leucotis (Musophaga), 437.
leucotis (Smilorhis), 37.
leucotis (Tamatia), 191.
leucotis (Turacus), 436.
leucuropyga (Centropus), 351.
levaillanti (Coccyzus), 221.
levaillanti (Cuculus), 221.
levaillanti (Indicator), 5, 6, 8.
levaillanti (Melanobucco), 20.
levaillanti (Oxylophus), 221.
levaillantii (Bucco), 20.
levaillantii (Pogonias), 20.
levaillantii (Pogonorhynchus), 20.
levaillantii (Ramphastos), 129.
libanoticus (Cuculus), 247.
lichtensteini (Pteroglossus), 159.
lignator (Centropus), 352.
lignatus (Centrococcyx), 352.
Lignobucco, 38.
limborgi (Chrysococcyx), 289.
lineata (Bucco), 78.
lineata (Cyanops), 80.
lineata (Megalæma), 80.
lineata (Megalaima), 80.
lineatus (Bucco), 80.
lineatus (Capito), 80.
lineatus (Cuculus), 244, 268.
Little Barbet, 89.
livingstonii (Corythaix), 439.
livingstonii (Turacus), 439.
longicauda (Galbula), 162.
longicauda (Leptostoma), 419.
longicaudatus (Phœnicophæus), 386.
longipennis (Cuculus), 247.
lucida (Rhinortha), 393.
lucidus (Chalcites), 295, 297.
lucidus (Chrysococcyx), 291, 294, 295, 297, 298, 299, 301.
lucidus (Cuculus), 291, 294, 295, 297, 298, 299.
lucidus (Lamprococcyx), 295, 297, 299.
lucidus (Phœnicophaus), 393.
lugubris (Brachycex), 172.
lugubris (Brachygalba), 171, 172.
lugubris (Cacangelus), 227.
lugubris (Cuculus), 227.
lugubris (Galbula), 171.
lugubris (Jacamaralcyon), 171.
lugubris (Polyphasia), 227.
lugubris (Pseudornis), 227.
lugubris (Surniculus), 227.
luteus (Bucco), 89.
luzonensis (Trogon), 31.
Lypornix, 202.

maclellandi (Megalaima), 80.
macrocercus (Coccyzus), 373.
macrodactylus (Argicus), 187.
macrodactylus (Bucco), 179, 180, 186, 187.
macrodactylus (Capito), 186.
macrodactylus (Cyphos), 186.
macrodactylus (Tamatia), 186.
macrorhyncha (Corythaix), 441.
macrorhyncha (Musophaga), 442.
macrorhynchos (Tamatia), 183.
macrorhynchus (Bucco), 180, 181, 182, 183.
macrorhynchus (Capito), 181, 182, 183.
macrorhynchus (Cyphos), 181.
macrorhynchus (Notharchus), 181.
macrorhynchus (Tamatia), 181.
macrorhynchus (Turacus), 441.
macroura (Galbula), 166.
macroura (Piaya), 373.
macrourus (Geotacco), 426.
macrurus (Centropus), 340.
macrurus (Coccyzus), 374.
macrurus (Cuculus), 212.
macrurus (Pyrrhococcyx), 374.
maculata (Alcedo), 190.
maculata (Eudynamis), 317.
maculata (Tamatia), 189.

maculatus (Bucco), 111, 179, 180, 190, 191.
maculatus (Capito), 190.
maculatus (Chalcococcyx), 291.
maculatus (Chrysococcyx), 292.
maculatus (Corydonix), 352.
maculatus (Cuculus), 292, 316.
maculatus (Indicator), 9.
maculatus (Lamprococcyx), 292.
maculatus (Nyctastes), 190.
maculatus (Nystalus), 190.
maculatus (Pteroglossus), 149.
maculatus (Ramphastos), 149.
maculatus (Tamatia), 190.
maculatus (Trogon), 291.
maculicauda (Galbula), 165.
maculicollis (Indicator), 8.
maculicoronatus (Capito), 109.
maculirostris (Pteroglossus), 149.
maculirostris (Selenidera), 149, 150.
madagascariensis (Centropus), 351.
madagascariensis (Coccyzus), 413.
madagascariensis (Coua), 412, 413.
madagascariensis (Cuculus), 412.
madagascariensis (Serisomus), 413.
magnirostris (Ramphastos), 125.
major (Crotophaga), 428.
major (Indicator), 6, 7, 9, 457.
major (Pogonias), 16.
malabarica (Bucco), 95.
malabarica (Megalæma), 95.
malabarica (Megalaima), 95.
malabarica (Xantholæma), 95.
Malacoptila, 179, 193.
malayana (Eudynamis), 317.
malayanus (Chalcococcyx), 298.
malayanus (Chrysococcyx), 298.
malayanus (Cuculus), 291, 298.
malayanus (Indicator), 4.
malayanus (Lamprococcyx), 298.
Malcoha rouverdin, 397.
Malkoha, Le, 395.
margaritaceus (Micropogon), 103.
margaritatus (Bucco), 103.
margaritatus (Capito), 103.
margaritatus (Trachyphonus), 103, 104.
margariticus (Capito), 103.
marginata (Saurothera), 419.
marginatus (Geococcyx), 419.
mariæ (Pteroglossus), 145.
marshallorum (Megalæma), 52, 53.
masaicum (Tricholæma), 34.
massaicus (Pogonorhynchus), 34.
maximus (Centrococcyx), 345.
maynalensis (Capito), 116.
maynanensis (Capito), 116.
maynardi (Coccyzus), 306.
mechowi (Cercococcyx), 265.
medius (Centrococcyx) 355.
medius (Centropus), 354.
Megalæma, 15, 52.
Megalaima, 52.
Megalorhynchus, 49.
megarhynchus (Cacomantis), 329.
megarhynchus (Cuculus), 329.
megarhynchus (Rhamphomantis), 329.
mehleri (Piaya), 374.
mehleri (Pyrrhococcyx), 374.
melacorypha (Piaya), 307.
Melanobucco, 14, 17.
melanocephalum (Tricholæma), 30.
melanocephalus (Laimodon), 30.
melanocephalus (Pogonias), 30.
melanocephalus (Pogonorhynchus), 30.
melanocoryphos (Coccyzus), 307.
melanocoryphus (Coccyzus), 307.
melanogaster (Coccyzus), 378.
melanogaster (Cuculus), 377.
melanogaster (Pyrrhococcyx), 378.
melanogaster (Phœnicophaus), 396.
melanogastra (Piaya), 378.
melanogenia (Galbula), 164, 166.
melanognathus (Cuculus), 398.
melanognathus (Phœnicophaus), 397.
melanoleucos (Bucco), 185.
melanoleucus (Capito), 185.
melanoleucus (Coccystes), 217.
melanoleucus (Coccyzus), 217.
melanoleucus (Cuculus), 217.
melanoleucus (Oxylophus), 217.
melanoleucus (Tamatia), 185.
melanops (Centropus), 365.
melanops (Nesocentor), 365.
melanops (Pyrrhocentor), 365.
melanopterus (Laimodon), 19.
melanopterus (Melanobucco), 19.
melanopterus (Pogonias), 19.
melanopterus (Pogonorhynchus), 19.

melanorhyncha (Eudynamis), 327.
melanorhynchus (Centropus), 351.
melanorhynchus (Cuculus), 307.
melanorhynchus (Piaya), 307.
melanorhynchus (Pteroglossus), 135.
melanosterna (Brachycex), 174.
melanosterna (Brachygalba), 171, 174.
melanosterna (Galbula), 174.
melanotis (Capito), 115, 191.
melanotis (Tamatia), 191.
melanurus (Centropus), 341.
melanurus (Polophilus), 341.
Melias, 395.
Melignothes, 2.
melissophonus (Cuculus), 212.
menbeki (Centropus), 336.
menbikii (Centropus), 336.
menebeki (Centropus), 336.
menebeki (Nesocentor), 336.
menebiki (Centropus), 336, 337.
meriani (Corythaix), 442.
meriani (Musophaga), 438, 442.
meriani (Turacus), 442.
merlini (Coccyzus), 370.
merlini (Saurothera), 370.
merulina (Polyphasia), 268.
merulinus (Cacomantis), 268.
merulinus (Cuculus), 268.
Mesobucco, 15, 85.
mesurus (Coccyzus), 374.
mesurus (Pyrrhococcyx), 374.
metallicus (Cuculus), 295, 297.
mexicanus (Coccyzus), 374.
mexicanus (Cuculus), 373.
mexicanus (Dromococcyx), 426.
mexicanus (Geococcyx), 419.
mexicanus (Phasianus), 419.
mexicanus (Pyrrhococcyx), 374.
mexicanus (Piaya), 374.
meyeri (Chalcites), 293.
meyeri (Chalcococcyx), 293.
meyeri (Chrysococcyx), 293.
meyeri (Lamprococcyx), 293.
michieanus (Cuculus), 242.
Microdynamis, 211, 328.
Micromonacha, 179, 199.
Micropogon, 99, 107.
micropterus (Cuculus), 241.
microrhynchus (Pteroglossus), 157.
milo (Centropus), 335.
milo (Nesocentor), 335.
mindanensis (Cuculus), 321.
mindanensis (Eudynamis), 321.
mindorensis (Centrococcyx), 339.
mindorensis (Centropus), 339.
minimus (Indicator), 9.
minor (Coccyzus), 304, 307.
minor (Crotophaga), 430.
minor (Cuculus), 304.
minor (Indicator), 9.
minor (Piaya), 304.
minor (Pogonias), 20.
minor maynardi (Coccyzus), 306.
minuta (Barbatula), 40.
minuta (Piaya), 378, 379.
minutillus (Chalcites), 299.
minutillus (Chrysococcyx), 298.
minutillus (Cuculus), 298.
minutillus (Lamprococcyx), 298, 299.
minutus (Coccyzus), 378.
minutus (Pyrrhococcyx), 379.
Misocalius, 279.
misoriensis (Chalcococcyx), 301.
misoriensis (Lamprococcyx), 301.
molkenboeri (Centropus), 354.
moluccensis (Bucco), 67.
moluccensis (Centrococcyx), 354.
moluccensis (Centropus), 354.
moluccensis (Megalaima), 67.
Monacha, 179, 202.
monachus (Centropus), 359.
monachus (Cuculus), 378.
Monasa, 202.
Monastes, 202.
monosyllabicus (Cuculus), 253.
monticola (Cyanops), 74.
monticolus (Phœnicophæus), 386.
Morococcyx, 422.
morpheus (Monacha), 203, 204, 205.
morpheus (Monasa), 205.
morphoeus (Bucco), 204.
muschenbroecki (Surniculus), 230.
Musophaga, 447.
musophaga (Corythaix), 440.
musophagus (Turacus), 441.
mystacalis (Malacoptila), 196.
mystacalis (Monasa), 196.
mystacophanes (Bucco), 72.
mystacophanes (Chotorhea), 72.
mystacophanes (Cyanops), 72.
mystacophanes (Megalæma), 72.
mystacophanes (Megalaima), 72.
mystacophanos (Megalæma), 72.

nævia (Piaya), 424.
nævius (Capito), 111.
nævius (Coccyzus), 424.
nævius (Cuculus), 423.
nævius (Diplopterus), 423, 424.
nanus (Bucco), 89.
nanus (Hierococcyx), 238.
napensis (Bucco), 182.
napensis (Notharchus), 182.

natalensis (Centropus), 362, 460.
nattereri (Pteroglossus), 151.
natterori (Selenidera), 149, 151.
nebulosa (Chotorhea), 72.
neglectus (Cuculus), 294.
Neomorphus, 415.
nesiotes (Coccyzus), 304.
Nesocentor, 331.
Nesococcyx, 302.
Nicoclarius, 211, 240.
niger (Bucco), 31, 111.
niger (Capito), 111, 113.
niger (Cuculus), 203, 277, 316.
niger (Eudynamis), 322, 323.
niger (Gymnopus), 277.
niger (Læmodon), 32.
niger (Pogonias), 32.
niger (Pogonorhynchus), 32.
niger (Polyphasia), 277.
nigra (Eudynamis), 317.
nigra (Monacha), 202, 203.
nigricans (Centropus), 339.
nigricans (Coccystes), 260.
nigricans (Cuculus), 260.
nigricans (Polophilus), 339.
nigricans (Surniculus), 260.
nigricrissa (Piaya), 374.
nigricrissa (Pyrrhococcyx), 374.
nigridens (Pteroglossus), 145.
nigrifrons (Bucco), 206.
nigrifrons (Centropus), 365.
nigrifrons (Monacha), 203, 206.
nigrifrons (Monasa), 206.
nigrifrons (Nesocentor), 365.
nigrifusca (Malacoptila), 194.
nigrirostris (Andigena), 133, 134, 135, 136.
nigrirostris (Crotophaga), 432.
nigrirostris (Pteroglossus), 135.
nigrithorax (Bucco), 24.
nigrithorax (Laimodon), 24.
nigrithorax (Pogonias), 24.
nigrithorax (Pogonorhynchus), 24.
nigritorques (Malacoptila), 194.
nigriventris (Phœnicophaus), 390.
nigrorufus (Centropus), 357.
nigrorufus (Cuculus), 357.
nisicolor (Cuculus), 237.
nisicolor (Hierococcyx), 237.
Nisocalius, 279.
nisoides (Hierococcyx), 235.
nitens (Cuculus), 295.
Nonnula, 179, 199.
Notharchus, 179.
Nothriscus, 179.
novæ-hollandiæ (Scythrops), 330.
nuchalis (Cyanops), 74.
nuchalis (Megalæma), 74.
nuchalis (Megalaima), 74.
nuchalis (Pteroglossus), 141.
Nystactes, 179.
Nystalus, 179.
Nystastes, 107.

occidentalis (Coccyzus), 311.
occidentalis (Heteroscenes), 261.
occidentalis (Indicator), 10.
Octopteryx, 433.
olivacea (Barbatula), 49.
olivaceiceps (Coua), 411.
olivaceiceps (Sericosomus), 411.
olivaceum (Stactolæma), 49.
Ololygon, 265.
oorti (Bucco), 71.
oorti (Cyanops), 71.
oorti (Megalæma), 71.
oorti (Megalaima), 67, 71.
Opæthus, 436.
optatus (Cuculus), 253.
optatus (Nicoclarius), 253.
ordi (Bucco), 180, 184.
ordi (Notharchus), 184.
ordi (Tamatia), 184.
orientalis (Cuculus), 316, 322, 324.
orientalis (Eudynamis), 316, 322, 323, 324, 326, 327.
ornatus (Phœnicophaus), 404.
osculans (Chrysococcyx), 279.
osculans (Cuculus), 279.
osculans (Rhamphastos), 124, 131.
Oxylophus, 211.

Pachycoccyx, 210, 224.
pachyrhynchus (Meligmothes), 9.
pallescens (Coccyzus), 374.
pallescens (Pyrrhococcyx), 374.
pallescens (Monacha), 203, 206.
pallescens (Monasa), 206.
pallida (Columba), 261.
pallidirostris (Indicator), 5.
pallidirostris (Schizorhis), 453.
pallidus (Cacomantis), 261.
pallidus (Cuculus), 261.
pallidus (Heteroscenes), 261.
palliolatus (Cuculus), 279, 301.
palliolatus (Misocalius), 279.
panamensis (Bucco), 196.
panamensis (Capito), 196.
panamensis (Chaunornis), 196.
panamensis (Malacoptila), 193, 196, 197.
panamensis æquatorialis (Malacoptila), 197.
panamensis costaricensis (Malacoptila), 196.
panamensis mystacalis (Malacoptila), 197.
panamensis poliopsis (Malacoptila), 196.
panamensis typica (Malacoptila), 196.
panayanus (Cuculus), 321.
paradisea (Alcedo), 162.
paradisea (Galbula), 162.
paradisea (Urocex), 162.
paradisea (Urogalba), 162, 163.
paradisea amazonum (Urogalba), 163.
parva (Megalaima), 89.
parva (Microdynamis), 328.
parva (Urodynamis), 328.
parvus (Barbatula), 40.

parvus (Bucco), 39, 42, 89.
passerina (Polyphasia), 277.
passerinus (Cacomantis), 277.
passerinus (Cuculus), 277.
passerinus (Ololygon), 277.
pastazæ (Galbula), 164, 168.
paulina (Corythaix), 444.
paulina (Musophaga), 444.
pavoninus (Aulacorhamphus), 157.
pavoninus (Diplopterus), 427.
pavoninus (Dromococcyx), 427.
pavoninus (Pteroglossus), 157.
pectoralis (Bucco), 180, 184.
pectoralis (Capito), 184.
pectoralis (Hierococcyx), 237.
pectoralis (Ramphastos), 133.
pectoralis (Tamatia), 184.
peli (Gymnobucco), 34.
peli (Gymnocranus), 34.
peninsulæ (Cuculus), 247.
Penthoceryx, 240.
perlatus (Cuculus), 314.
persa (Corythaix), 437, 442.
persa (Cuculus), 437, 440.
persa (Musophaga), 437, 440.
persa (Opæthus), 440, 453.
persa (Spelectos), 438.
persa (Turacus), 437, 441, 442.
personata (Chizœrhis), 455.
personata (Coliphimus), 455.
personata (Gymnoschizorhis), 455.
personata (Musophaga), 455.
personata (Schizorhis), 455, 456.
personata (Turacus), 455.
personata (Monasa), 204.
personatus (Bucco), 26.
personatus (Pogonias), 24.
peruana (Monacha), 203, 205.
peruana (Monasa), 205.
peruvianus (Bucco), 113.
peruvianus (Capito), 112, 113.
peruvianus (Micropogon), 113.
Petit Barbu, 89.
Petit Coucou de l'Isle Panay, 268.
Petit Coucou des Indes, 262.
Petit Indicateur, 9.
phæolæmus (Aulacorhamphus), 157, 158.
phæosticta (Chotorhea), 76.
phæostriata (Cyanops), 76, 458.
phæostriata (Megalæma), 76.
phaioleucos (Monaca), 200.
phaioleucos (Monasa), 200.
phaiopterus (Cuculus), 212, 213.
phaiosticta (Megalaima), 76.
phasianellus (Coccyzus), 426.
phasianellus (Diplopterus), 426.
phasianellus (Dromococcyx), 426.
phasianellus (Macropus), 426.
phasianus (Centropus), 340.
phasianus (Corydonix), 340.
phasianus (Cuculus), 340.
phasianus (Polophilus), 340.
philippensis (Bucco), 97.
philippensis (Centropus), 343.
philippensis (Cuculus), 344.
philippensis (Megalæma), 89.
philippensis (Megalaima), 89.
philippensis (Xantholæma), 89.
philippinensis (Bucco), 89.
Phimus, 447.
Phœnicophaës, 368, 395.
Phœnicophaus, 395.
Piaya, 367, 373.
pica (Coccystes), 218.
pica (Cuculus), 217.
picatus (Bucco), 180, 186.
picatus (Eudynamis), 324, 326.
picatus (Nothriscus), 186.
pictus (Bucco), 116.
pictus (Capito), 116.
pictus (Eubucco), 116.
Pigeon ramier gris et verdâtre, 256.
Pignan-Coin, Le, 132.
piperivora (Selenidera), 148, 149, 152.
Piperivorus, 148.
piperivorus (Pteroglossus), 152.
piperivorus (Ramphastos), 152.
Piririgua, 434.
piririgua (Crotophaga), 434.
piririgua (Guira), 434.
Pisan Cuckow, 212.
pisanus (Coccystes), 212.
pisanus (Coccyzus), 212.
pisanus (Cuculus), 212.
piscivorus (Ramphastos), 125, 126.
plagosus (Chalcites), 297.
plagosus (Chalcococcyx), 297.
plagosus (Chrysococcyx), 291.
plagosus (Cuculus), 297.
plagosus (Lamprococcyx), 297.
plagosus (Lampromorphus), 291.
Plant-cutter, Abyssinian, 22.
platyrhyncha (Lamprotila), 176.
pluricinctus (Pteroglossus), 138, 139, 140.
pluvialis (Coccyzus), 369, 372.
pluvialis (Cuculus), 372.
pluvialis (Hyetomantis), 372.

pluvialis (Hyetornis), 372.
pluvialis (Piaya), 372.
pluvialis (Ptiloleptis), 372.
pœcilosternus (Pteroglossus), 139, 140.
pœciluroides (Chalcococcyx), 301.
pœciluroides (Lamprococcyx), 296, 301.
pœcilurus (Chalcites), 299.
pœcilurus(Chalcococcyx), 299.
pœcilurus (Chrysococcyx), 299.
pœcilurus (Cuculus), 299.
pœcilurus (Lamprococcyx), 299.
poeppigii (Pteroglossus), 148.
Pogonias, 15.
Pogonorhamphus, 15.
Pogonorhynchus, 13, 15.
poliocephalus (Cuculus), 255, 256.
poliocephalus (Hierococcyx), 256.
Poliococcyx, 384.
poliogaster (Cuculus), 261.
poliogaster (Nicoclarius), 261.
poliopsis (Malacoptila), 196, 197.
poliurus (Chalcococcyx), 296.
poliurus (Lamprococcyx), 296.
Polophilus, 331.
Polyphasia, 265.
Polystictc, 99.
porphyreolophus (Corythaix), 446, 447.
porphyreolophus (Gallirex), 446.
porphyreolophus (Musophaga), 446.
porphyreolophus (Turacus), 446, 447.
præsagus (Cuculus), 330.
præsagus (Scythrops), 330.
prasinus (Aulacorhamphus), 154, 156, 157, 458.
prasinus (Pteroglossus), 156.
pravata (Cuculus), 263.
pravatus (Cacomantis), 263.
pravatus (Penthoceryx), 263.
prionulus (Cuculus), 266.
proditor (Indicator), 7.
proditor (Prodotes), 7.
Prodotes, 2.
Prodotiscus, 11.
Promepic, Le, 100.
Pseudobucco, 98.
Pseudofringilla, 2.
Pseudornis, 226.
Pseudospiza, 2.
Psilopogon, 15, 98.
Psittaceous Hornbill, 330.
Pteroglossus, 123, 137.
Ptiloleptus, 433.
pucherani (Cultrides), 417.
pucherani(Neomorphus), 417.
pulcherrima (Cyanops), 69.
pulcherrima(Megalæma), 69.
pulmentum (Bucco), 180, 189.
pulmentum (Chaunornis), 189.
pulmentum (Nyctactes), 189.
pulmentum (Tamatia), 189.
pumilus (Centropus), 354.
pumilus (Coccyzus), 313.
punctatus (Bucco), 112.
punctatus (Capito), 112.
punctatus (Cuculus), 322, 323.
punctatus (Eudynamis), 322, 326.
punctulatus (Coccyzus), 424.
punctulatus (Cuculus), 424.
purpuratus (Capito), 106.
purpuratus (Trachyphonus), 106, 107.
purpurea (Musophaga), 438.
purpureus (Centropus), 348, 349.
purpureus (Corythaix), 438.
purpureus (Turacus), 438.
pusilla (Barbatula), 39, 40.
pusilla (Megalaima), 40.
pusillus (Bucco), 39.
pygmæus (Centropus), 352.
pyrrolopha (Megalaima), 98.
pyrrolophus (Pseudobucco), 98.
pyrrolophus (Psilopogon), 98.
pyrrommatus (Cuculus), 277.
pyropyga (Coua), 410.
pyropyga (Sericosomus), 410.
Pyrosterna, 137.
Pyrrhocentor, 331.
pyrrhocephalus (Cuculus), 395.
pyrrhocephalus (Melias), 395.
pyrrhocephalus (Phœnicophaes), 395.
pyrrhocephalus (Phœnicophæus), 395.
Pyrrhococcyx, 373.
pyrrholæma (Malacoptila), 198.
pyrrholeucus (Corydonix), 361.
pyrrhophanes (Cuculus), 266.
pyrrhophanus (Cuculus), 266.
pyrrhopterus (Centropus), 344.
pyrrhopterus (Corydonix), 349.
pyrrhopterus (Coccyzus), 308.
pyrrhopygia (Coua), 410.

quadricolor (Bucco), 72, 85.
quadricolor (Galbula), 164, 165.
quadricolor (Megalaima), 72, 85.
querulus (Cacomantis), 269.
quinticolor (Capito), 111.
quopopa (Polysticte), 100.

radcliffii (Indicator), 3.
radiatus (Bucco), 180, 192.
radiatus (Calobates), 414.
radiatus (Carpococcyx), 414.
radiatus (Cuculus), 232.
radiatus (Neomorphus), 415.
radiatus (Nystalus), 192.
radiceus (Calobates), 414.
radiceus (Carpococcyx), 414.
radiolosus(Neomorphus), 418.
rafflesii (Bucco), 59.
rafflesii (Xantholæma), 90.
rafflesius (Bucco), 89.
rafflesius (Megalaima), 89.
Ramphastoides, 148.
Ramphastos, 124.
Ramphodryas, 124.
Ramphomelus, 133.
Ramphoxanthus, 153.
ramsayi (Cyanops), 70.
ramsayi (Megalæma), 70.
ransomi (Eudynamis), 323.
Razor-billed Blackbird, 429.
rectunguis (Centrococcyx), 343.
rectunguis (Centropus), 343, 353, 354.
Red-crown Barbet, 93.
regalis (Pteroglossus), 141.
regius (Cuculus), 448.
regulus (Indicator), 11.
regulus (Prodotiscus), 11.
reichenowi (Turacus), 440.
reinwardtii (Pteroglossus), 151.
reinwardtii (Selenidera), 149, 151.
resplendens (Chrysococcyx), 283.
resplendens (Lamprococcyx), 283.
reynaudii (Coccyzus), 407.
reynaudii (Coua), 407.
reynaudii (Sericosomus), 407.
rhamphastinus (Tetragonops), 120.
Rhamphastos, 123, 124.
Rhamphococcyx, 368.
Rhamphomantis, 211, 329.
Rhinococcyx, 368, 397.
Rhinortha, 368, 392.
Rhopodytes, 368, 384.
richardsoni (Capito), 114, 115.
richardsoni (Eubucco), 114.
ridibunda (Piaya), 373.
ridibundus (Coccyzus), 373.
ridibundus (Cuculus), 373.
ridibundus (Ptilopterus), 374.
rochii (Cuculus), 256.
rollesi (Rhamphomantis), 328.
rolleti (Erythrobucco), 17.
rolleti (Pogonias), 17.
rolleti(Pogonorhynchus), 17.
rosaceicollis (Capito), 97.
rosea (Megalaima), 97.
rosea (Xantholæma), 96, 97.
roseicollis (Bucco), 97.
roseus (Bucco), 96.
rossæ (Musophaga), 448.
rubecula (Bucco), 200.
rubecula (Lypornix), 200.
rubecula (Malacoptila), 200.
rubecula (Monasa), 200.
rubecula (Nonnula), 199, 200.
rubecula (Scotocharis), 200.
rubeculus (Cuculus), 258.
rubescens (Pogonias), 26.
rubicon (Pogonias), 26.
rubiculus (Surniculus), 258.
rubicundus (Cuculus), 373.
rubrarmus (Oxylophus), 215.
rubricapilla(Megalaima), 93.
rubricapilla (Xantholæma), 93.
rubricapillus (Bucco), 93.
rubricapillus (Capito), 93.
rubricollis (Bucco), 89.
rubricollis (Capito), 111.
rubricollis (Galbula), 164.
rubrifrons (Bucco), 39.
rubrifrons (Capito), 39.
rubrifrons (Megalaima), 89.
rubrifrons (Pogonias), 22.
rubrirostris (Coccyzus), 380.
rufa (Lypornix), 194, 198.
rufa (Malacoptila), 193, 194.
rufa (Monasa), 194.
rufa (Scotocharis), 194.
rufalbinus (Cuculus), 200.
rufescens (Anadænus), 393.
rufescens (Rhinortha), 393.
ruficapilla (Coccyzus), 424.
ruficapilla (Lypornix), 200.
ruficapilla (Monasa), 200.
ruficapilla (Malacoptila), 200.
ruficapilla (Nonnula), 199, 200, 201.
ruficapilla (Scotocharis), 200.
ruficauda (Anadænus), 393.
ruficauda (Galbula), 164, 165, 166, 167.
ruficeps (Coua), 407, 410.
ruficeps (Sericosomus), 411.
ruficervix (Capito), 192.
ruficollis (Bucco), 180, 187, 188.
ruficollis (Capito), 187.
ruficollis (Chalcococcyx), 300.
ruficollis (Chaunornis), 187.
ruficollis (Cuculus), 244.
ruficollis (Hypnelus), 187.

ruficollis (Lamprococcyx), 300.
rufifrons (Bucco), 32.
rufigularis (Diplopterus), 426.
rufigularis (Dromococcyx), 426.
rufinus (Centropus), 352.
rufinus (Corydonix), 352.
rufinus (Cuculus), 352.
rufipennis (Centrococcyx), 344.
rufipennis (Centropus), 344, 349.
rufipennis (Cultrides), 418.
rufipennis (Neomorphus), 418.
rufiventer (Cuculus), 325.
rufiventer (Eudynamis), 323, 325, 326.
rufiventris (Polyphasia), 269.
rufiventris (Cacomantis), 269.
rufoviridis (Cuculus), 268.
rufoviridis (Galbula), 164, 165.
rufovittatus (Cuculus), 263.
rufulus (Cuculus), 266.
rufus (Anadænus), 393.
rufus (Bucco), 194.
rufus (Cuculus), 247.
rufus (Polophilus), 352.
rugirostra (Crotophaga), 430.
russata (Chrysococcyx), 299.
russatus (Chalcites), 299.
russatus (Cuculus), 299.
rutila (Coccyzusa), 379.
rutila (Piaya), 379.
rutilus (Coccyzus), 378.
rutilus (Cuculus), 378.
rutilus (Pyrrhococcyx), 379.

sakalava (Centropus), 351.
salmoni (Brachygalba), 171, 173.
saltii (Bucco), 22.
saltii (Laimodon), 23.
saltii (Pogonias), 23.
saltii (Pogonorhynchus), 23.
salvini (Capito), 119.
salvini (Neomorphus), 417.
sanguinolentus (Calorhamphus), 50.
sanguinolentus (Megalorhynchus), 51.
sanguineus (Pteroglossus), 138, 143.
saturatus (Cuculus), 253.
Saurothera, 367, 369.
Savanna Blackbird, 430.
savorgnani (Centropus), 359.
schalowi (Corythaix), 439.
Schizorhis, 450.
schomburgki (Chrysococcyx), 292.
schomburgki (Cuculus), 292.
schuetti (Corythaix), 441.
schuetti (Turacus), 441.
scolopacea (Barbatula), 47.
scolopacea (Bucco), 47.
scolopacea (Megalæma), 47.
scolopacea (Megalaima), 47.
scolopacea (Xylobucco), 47.
scolopaceus (Cuculus), 316.
Scotocharis, 202.
Scythrops, 211, 329.
Selenidera, 123, 148.
semisulcata(Crotophaga), 432.
senegalensis (Centropus), 358, 359, 360, 361.
senegalensis (Corydonix), 361.
senegalensis (Corythaix), 438.
senegalensis (Cuculus), 360.
senegalensis (Musophaga), 450.
senegalensis (Pogonias), 26.
senegalensis(Polophilus), 361.
senex (Melanobucco), 22.
senex (Pogonorhynchus), 22.
seniculus (Coccystes), 304.
seniculus (Coccyzus), 304.
seniculus (Cuculus), 304, 307.
seniculus(Erythrophrys), 304.
senilis (Capito), 194.
septorum (Coccyzus), 424.
sepulcralis (Cacomantis), 273, 274.
sepulcralis (Cuculus), 268, 273.
Sericosomus, 405.
serratoides (Coccyzus), 217.
serratoides (Oxylophus), 217.
serratus (Coccystes), 218, 223, 224, 260, 459.
serratus (Coccyzus), 217, 223.
serratus (Cuculus), 217, 223.
serratus (Oxylophus), 217, 223, 260.
serriana (Coua), 408.
serrianus (Sericosomus), 408.
serrisiana (Coua), 408.
Serisomus, 405.
sex-notatus (Aulacorhamphus), 158.
shelleyi (Trachyphonus), 103.
Shining Cuckoo, 295.
simplex (Barbatula), 49.
Simotes, 225.
simus (Cuculus), 276.
simus (Cacomantis), 276.
sinensis (Centrococcyx), 344.
sinensis (Centropus),343, 344.
sinensis (Polophilus), 343.
sirkee (Centropus), 381.
sirkee (Phœnicophaes), 382.
sirkee (Taccocua), 381, 382.
sirkee (Zanclostomus), 381.
sirki (Acentetus), 382.
sirki (Taccocua), 382.
smaragdinensis(Cuculus), 281.
smaragdineus (Chalcites), 281.
smaragdineus (Chrysococcyx), 280.
smaragdineus (Cuculus), 281.
smaragdinus (Chalcococcyx), 292.

smaragdinus (Chrysococcyx), 291.
smaragdinus (Cuculus), 292.
smaragdinus (Lamprococcyx), 291.
Smilorhis, 14, 36.
Society Cuckoo, 314.
solitarius (Cuculus), 258.
somnolenta (Tamatia), 190.
somnolentus (Bucco), 190.
sonnerati (Cacomantis), 263.
sonnerati (Cuculus), 262, 274.
sonnerati (Penthoceryx), 263.
sonnerati (Polyphasia), 263.
sparmanni (Indicator), 5, 9.
sparverinus (Hierococcyx), 232.
sparveroides (Cuculus), 232.
sparveroides (Hierococcyx), 232, 237.
spectabilis (Selenidera), 148, 149, 153.
Spelectos, 436.
spilopterus (Centropus), 338, 339.
spilopterus (Nesocentor), 339.
spilopterus (Polophilus), 339.
spilorhynchus (Andigena), 134, 136.
spinosus (Megalorhynchus), 50.
splendidus (Chrysococcyx), 281, 293.
Spotted Curucui, 291.
squamatus (Capito), 110.
squamatus (Pogonorhynchus), 27.
squamiceps (Capito), 105.
squamiceps (Trachyphonus), 104, 105.
Stactolæma, 14, 48.
steerii (Capito), 116.
stellata (Megalaima), 47.
stellatus (Bucco), 47.
stephensii (Pogonias), 32.
stictithorax (Indicator), 8.
stigmatothorax (Pogonorhynchus), 29.
stigmatothorax (Tricholæma), 29.
stormsi (Cuculus), 256.
strenuus (Cuculus), 232.
strenuus (Hierococcyx), 232.
striata (Lypornix), 195.
striatipectus (Bucco), 180, 190.
striatipectus (Nystalus), 190.
striatus (Bucco), 195.
striatus (Capito), 195.
striatus (Cuculus), 242, 247, 252.
strigilatus (Bucco), 191.
striolatus (Bucco), 180, 192.
striolatus (Capito), 192.
striolatus (Nystalus), 192.
sturmi (Pteroglossus), 138, 144.
suahelicus (Trachyphonus), 102.
substriata (Malacoptila), 193, 198.
subsulphurea (Barbatula), 46.
subsulphurea (Bucco), 46.
subsulphurea (Megalæma), 45.
subsulphurea (Megalaima), 47.
subsulphurea (Xylobucco), 45.
subsulphureus (Capito), 46.
subsulphureus (Trachyphonus), 46.
subtectus (Bucco), 180, 186.
subtectus (Nothriscus), 186.
sulcata (Crotophaga), 432.
sulcatus (Aulacorhamphus), 153, 154, 155.
sulcatus (Pteroglossus), 154, 156.
sulcirostris (Crotophaga), 432.
sulcirostris (Pogonias), 16.
sulfuratus (Ramphastos), 125.
sulphuratus (Micropogon), 100.
sulphureus (Capito), 114.
sumatranus (Cuculus), 391, 393.
sumatranus (Melias), 391.
sumatranus (Phœnicophaus), 390, 391.
sumatranus (Poliococcyx), 391.
sumatranus (Rhopodytes), 391.
sumatranus (Zanclostomus), 391.
superciliosus (Centropus), 351, 359, 360, 362, 363.
superciliosus (Dasylophus), 403, 404.
superciliosus (Malcoha), 404.
superciliosus (Melias), 404.
superciliosus (Phœnicophaus), 403.
Surniculus, 210, 226.
surniculus (Coccyzus), 307.
swainsoni (Bucco), 180, 183.
swainsoni (Capito), 183.
swainsoni (Notharchus), 183.
swainsoni (Ramphastos), 127, 128.
swainsoni (Tamatia), 183.
swinhoei (Cuculus), 242.
swinhoii (Cuculus), 253.
sykesi (Megalæma), 84.

Taccocua, 368, 381.
tahitiensis (Eudynamis), 314.
tahitius (Cuculus), 314.
tahitius (Eudynamis), 314.
tahitius (Eudynamys), 314.
taitensis (Cuculus), 314.
taitensis (Eudynamis), 314.
taitiensis (Cuculus), 314.
taitiensis (Eudynamis), 314.
taitiensis (Eudynamys), 313.
taitiensis (Urodynamis), 314.

Tait-sou, 406.
tamajac (Tamatia), 190.
Tamatia, 99, 179.
tamatia (Bucco), 179, 180, 188, 189.
tamatia (Capito), 189.
tamatia (Nyctactes), 189.
tamatia (Tamatia), 189.
Tamatia à collier, Le, 180.
Tamatia à gorge rousse, 189.
Tamatia à plastron noir, 181.
Tamatia à plastron noir, Petit, 185.
Tamatia à tête et gorge rouges, 111.
Tamatia brun, Le, 193.
Tamatia, Le, 188.
Tamatia noir et blanc, Le plus petit, 185.
Tamatia noir et blanc, Le plus grand, 181.
tamsuicus (Cuculus), 256.
tecticauda (Centropus), 352.
tectus (Nothriscus), 185.
tectus (Bucco), 179, 180, 185, 186.
telephonus (Cuculus), 247.
temminckii (Cuculus), 297.
temminckii (Ramphastos), 132.
tenebrio (Monasa), 207.
tenebrosa (Brachypetes), 208.
tenebrosa (Chelidoptera), 207, 208.
tenebrosa (Lypornix), 207, 208.
tenebrosa (Monasa), 207, 208.
tenebrosus (Bucco), 208.
tenebrosus (Capito), 208.
tenebrosus (Cuculus), 207.
tenuirostris (Cacomantis), 269, 277.
tenuirostris (Cuculus), 234, 244, 253, 277.
tenuirostris(Nicoclarius), 256.
tenuirostris (Ololygon), 263, 269.
tenuirostris (Polyphasia), 269, 277.
Tetragonops, 15, 120.
thermophila (Piaya), 374.
Three-toed Grosbeak, 22.
threnodes (Cacomantis), 268.
threnodes (Cuculus), 269.
Tingaru, 373.
Tipped Cuckow, 279.
Tocan à collier jaune, Le, 129.
Tocan, Le, 128.
Tocard, Le, 127.
tocard (Ramphastos), 127.
tocard (Rhamphastos), 124, 127, 128.
Toco, Le, 125.
toco (Rhamphastos), 124.
tolu (Centropus), 350, 354.
tolu (Corydonix), 351.
tolu (Cuculus), 350.
tolu (Polophilus), 350.
tombacea (Galbula), 164, 167, 168.
torquata (Lypornix), 193, 195.
torquata (Malacoptila), 193, 195.
torquata (Monasa), 195.
torquatus (Bucco), 24, 195.
torquatus (Buccotrogon), 98.
torquatus (Cuculus), 416.
torquatus (Melanobucco), 24, 457.
torquatus (Pogonorhynchus), 24, 25.
torquatus (Pteroglossus), 138, 141, 143, 458.
torquatus (Ramphastos), 141.
Toucan à collier de Cayenne, 152.
Toucan à gorge blanche de Cayenne, 128.
Toucan à gorge orange, Le grand, 130.
Toucan à ventre gris de Cayenne, 152.
Toucan à ventre rouge, Le Grand, 132.
Toucan à ventre rouge, Le Petit, 133.
Toucan de Cayenne, appellé Toco, 124.
Toucan verd du Brésil, 138.
Toulou, 350.
toulou (Centropus), 350, 351.
toulou (Cuculus), 350.
toulou (Polophilus), 350.
Touraco, 435, 436.
Touraco Buffon, 438.
Touraco d'Abyssinie, 436.
Touraco-Géant, 449.
Touraco Musophaga, Le, 450.
Touraco violet ou Masqué, 448.
Touracou de Guinée, 440.
Touracou du Cap de Bonne Espérance, 440.
Touracou Louri, 440.
Trachyphonus, 15, 99.
tranquilla (Lypornix), 203.
tranquilla (Monasa), 203.
tranquillus (Cuculus), 203.
Tricholæma, 14, 28.
tricolor (Phœnicophæus), 397.
tridactyla (Galbula), 174.
tridactyla (Jacamaralcyon), 174, 175.
tridactyla (Loxia), 22.
tridactyla (Phytoloma), 22.
tridactylus (Cauax), 174.
trimaculata (Megalaima), 85, 87.
trimaculatus (Bucco), 85.
tristis (Bucco), 56.
tristis (Cuculus), 247.
tristis (Galbula), 172.
tristis (Melias), 386.
tristis (Phœnicophaes), 386.
tristis (Phœnicophaus), 386, 390.
tristis (Rhopodytes), 386.
tristis (Zanclostomus), 386, 389.
tschudii (Capito), 117.
tymbonomus (Cacomantis), 272, 273.
tymbonomus (Cuculus), 272, 273.
typica (Coua cristata), 409.
typicus (Coua nigriceps), 411.

Tucai, 133.
tucai (Ramphastos), 133.
Tucaius, 124.
Tucáno, 125.
Tucanus, 124.
tucanus (Ramphastos), 125, 128.
Turacus, 435.

ulocomus (Pteroglossus), 148.
undatus (Bucco), 27.
undatus (Laimodon), 27.
undatus (Melanobucco), 27.
undatus (Pogonias), 27.
undatus (Pogonorhynchus), 27.
undulatus (Bucco), 27.
unicolor (Lypornix), 206.
unidentatus (Laimodon), 32.
unidentatus (Pogonias), 32.
unirufus (Centropus), 367.
unirufus (Pyrrhocentor), 367.
unitorques (Malacoptila), 194.
unitorques (Monasa), 194.
Urocex, 162.
Urococcyx, 368, 398.
Urodynamis, 211, 313.
Urogalba, 161, 162.
uropygialis (Barbatula), 41.
uropygialis (Megalaima), 41.

vagans (Cuculus), 236.
vagans (Hierococcyx), 237.
vaillantii (Capito), 101.
vaillanti (Coccyzus), 221.
vaillantii (Oxylophus), 221.
vaillantii (Trachyphonus), 100.
validus (Cuculus), 225.
validus (Centrococcyx), 344.
validus (Pachycoccyx), 225.
Variable Warbler, 295.
varigetata (Musophaga), 450.
variegatus (Centropus), 340.
variegatus (Chizœrhis), 451.
variegatus (Corydonix), 340.
variegatus (Corythaix), 451.
variegatus (Cuculus), 261, 321.
variegatus (Indicator), 7, 8.
variegatus (Polophilus), 340.
Variété du Coucou Edolio, 221.
variolosus (Cacomantis), 272.
variolosus (Cuculus), 272.
varius (Hierococcyx), 234.
varius (Cuculus), 234.
velox (Cuculus), 419.
velox (Geococcyx), 419.
velutinus (Surniculus), 227, 230.
Venetou, Le, 168.
venustus (Cuculus), 263.
veræ-pacis (Malacoptila), 197.
verreauxi (Coua), 410.
verreauxi (Musophaga), 442.
verreauxi (Sericosomus), 411.
versicolor (Bucco), 59, 116.
versicolor (Capito), 116.
versicolor (Chotorhea), 59.
versicolor (Cuculus), 295, 297.
versicolor (Cyanops), 59.
versicolor (Megalæma), 59.
versicolor (Megalaima), 59.
versicolor (Sylvia), 295.
versicolor (Trachyphonus), 102.
vetula (Cuculus), 370.
vetula (Saurothera), 370, 371.
vetulus (Coccyzus), 370.
vetulus (Cuculus), 369.
vieilloti (Laimodon), 26.
vieilloti (Melanobucco), 26.
vieilloti (Pogonias), 26.
vieilloti (Pogonorhynchus), 26.
vieilloti (Saurothera), 371.
violacea (Musophaga), 448.
violaceus (Centropus), 337.
violaceus (Nesocentor), 337.
violaceus (Phimus), 448.
virens (Bucco), 52.
virens (Megalæma), 52, 53.
virens (Megalaima), 52, 53.
virescens (Cacomantis), 274.
virescens (Coccyzus), 412.
virescens (Cuculus), 274.
viridicauda (Galbula), 164.
viridirostris (Melias), 385.
viridirostris (Phœnicophaus), 385, 393.
viridirostris (Piaya), 374.
viridirostris (Rhopodytes), 385.
viridirostris (Zanclostomus), 385.
viridirufus (Phœnicophaus), 397.
viridis (Bucco), 77, 80, 83.
viridis (Carpococcyx), 415.
viridis (Centrococcyx), 349.
viridis (Centropus), 344, 349, 352.
viridis (Chotorhea), 81.
viridis (Corydonix), 349.
viridis (Cuculus), 349.
viridis (Cyanops), 83.
viridis (Galbula), 163, 164, 165, 166.
viridis (Megalæma), 80, 84.
viridis (Megalaima), 83.
viridis (Phœnicophæus), 398.

viridis (Phœnicophaus), 397.
viridis (Polophilus), 349.
viridis (Pteroglossus), 138, 147, 148.
viridis (Ramphastos), 147.
vitellinus (Ramphastos), 132.
vitellinus (Rhamphastos), 124, 132.

wagleri (Aulacorhamphus), 154, 157.
wagleri (Pteroglossus), 157.
Warbler, Variable, 295.
whitelyanus (Aulacorhamphus), 154, 156.
wiedi (Pteroglossus), 137, 139.
Woodpecker, Yellow, 111.

Xantholæma, 15, 88.
xanthonota (Pseudospiza), 3.
xanthonotus (Indicator), 3.
xanthonotus (Pseudofringilla), 3.
xanthorhynchus (Chalcites), 289, 291.
xanthorhynchus (Chalcococcyx), 289.
xanthorhynchus (Chrysococcyx), 289, 291.
xanthorhynchus (Cuculus), 289.
xanthorhynchus (Lampromorpha), 289.
Xylobucco, 38.

Yellow-cheeked Barbet, 76.
Yellow-throated Barbet, 89.
Yellow Woodpecker, 111.

Zanclostomus, 368, 380.
zeilonicus (Capito), 77.
zeylanicus (Bucco), 76, 78.
zeylonica (Cyanops), 76.
zeylonica (Megalæma), 77.
zeylonica (Megalaima), 77.
zonura (Chizœrhis), 451.
zonura (Musophaga), 452.
zonura (Schizorhis), 451, 452.
zonura (Turacus), 452.
zonurius (Schizorhis), 451.

END OF THE NINETEENTH VOLUME.

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# LIST OF PLATES.


| | Plate |
|---|---|
| Melanobucco æquatorialis, p. 19 | I. |
| Tricholæma stigmatothorax (fig. 1), p. 29 | II. |
| —— affine (fig. 2), p. 31 | |
| Barbatula chrysopyga (fig. 1), p. 45 | III. |
| —— bilineata (fig. 2), p. 44 | |
| Cyanops davisoni (fig. 1), p. 65 | IV. |
| —— ramsayi (fig. 2), p. 70 | |
| —— incognita (fig. 3), p. 68 | |
| Capito. Heads of species, pp. 114–119 | V. |
| Pteroglossus didymus, p. 147 | VI. |
| Aulacorhamphus erythrognathus, p. 154 | VII. |
| —— calorhynchus, p. 155 | VIII. |
| —— whitelyanus, p. 156 | IX. |
| —— cyanolæmus, p. 160 | X. |
| Coccystes caroli (fig. 1), p. 221 | XI. |
| —— hypopinarius (fig. 2), p. 220 | |
| Coccyzus dominicæ (fig. 1), p. 306 | XII. |
| —— minor (fig. 2), p. 304 | |
| —— maynardi (fig. 3 *), p. 306 | |
| Centropus purpureus, p. 348 | XIII. |


* In this figure the throat should be almost white, and not with the reddish tinge introduced by the colorist.

*Melanobucco æquatorialis.*

J. Smit del. et lith. Mintern Bros. Chromo. Lith.

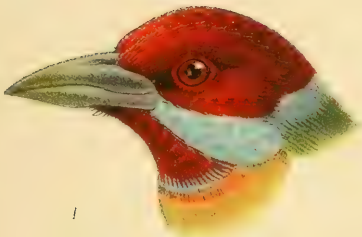
*1. Tricholæma stigmatothorax. 2. Tricholæma affine.*

J. Smit del. et lith. Mintern Bros. Chromo. Inst

*1. Barbatula chrysopyga. 2. Barbatula bilineata.*

J. Smit del. et lith. Mintern Bros. Chromo. Ltd.

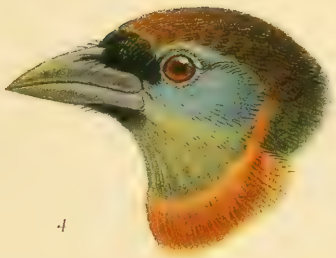
*1. Cyanops Davisoni. 2. C. Ramsayi. 3. C. incognita.*



1

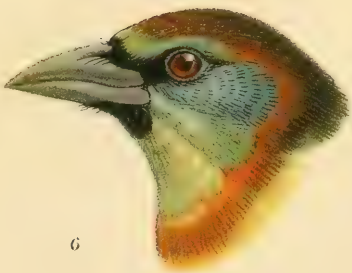
2.

3



4

5.



6

J. G. Keulemans del. et lith. Mintern Bros. Chromo lith.

*1. Capito versicolor. 2. C. steerii. 3. C. richardsoni.*
*4. C. salvini. 5. C. granadensis. 6. C. bourcieri.*

½

*Pteroglossus didymus.*

½

F. C. Keulemans del. et lith. Mintern Bros. Chromo. Lith.

*Aulacorhamphus erythrognathus.*

½

C. Keulemans del. et lith. Mintern Bros. Graveurs Lith.

*Aulacorhamphus calorhynchus.*

$\frac{1}{2}$

J. G. Keulemans del. et lith. Mintern Bros. Chromo. lith.

*Aulacorhamphus whitelyanus.*

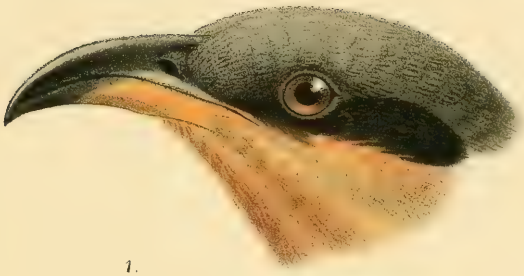
½

J.G.Keulemans del et lith. Mintern Bros. Chromo lith.

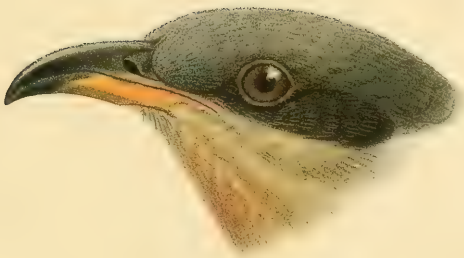
*Aulacorhamphus cyanolaemus.*

J. G. Keulemans del. et lith. Mintern Bros. Chromo lith.

*1. Coccystes caroli. 2. Coccystes hypopinarius.*



1.



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